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ABSTRACT

A major objective of the final evaluation (third year, 1969-70) of the Grand Forks, N.D., ESEA Title III project was to test the effects of aides groups not intimately connected with teaching through survey of parents' opinions and attitudes of student teachers in classes where aides served. In addition to this, the cost utility study was expanded to include input from school board members and negotiation teams who rated the utility value of various aide tasks. Final efforts to validate the Teacher Aide Attitude Inventory (TAAI) included input from teachers not connected with the Grand Forks school system. (The attempt was to create an instrument to be used by schools contemplating an aide program to discriminate between attitudes of teachers toward aides.) A comparison of perceptions of aides and teachers in Grand Forks on an Activity Sheet developed for evaluation of ten other teacher aide projects was carried out; it included evaluation of the compatibility between Grand Forks aides and teachers as well as contrast of responses on the Grand Forks project with those in similar projects throughout the U.S. Also, some aides participated in a study to determine whether there are valid predictors of aide success for use in hiring. (Included are explanation of procedures and summary of findings, the final version of the TAAI along with the other measurement instruments, and brief summaries of the 1967-68 evaluation and the 1968-69 evaluation (ED 035 580). (JS)

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Implementation of the Teacher and His Staff Concept Project

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Research Report No. 3

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for the

1969-70 Project Year

by

The Evaluation Team
Dr. John Thompson, Project Director
Dr. Jack Barden
Dr. Quinn Brunson
Dr. John Williams

Bureau of Educational Research and Services

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COLLEGE OF EDUCATION
UNIVERSITY OF NORTH DAKOTA
GRAND FORKS, NORTH DAKOTA

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FINAL

EVALUATION REPORT

Prepared for

Director

Division of Plans and Supplementary Center
Office of Education
400 Maryland Avenue, S. W.
Washington, D.C. 20202

and

The School Board
Dr. Wayne Worner, Superintendent of Schools
Grand Forks, North Dakota

for the

1969-70 Project Year

by the

Evaluation Subcontractor

The Bureau of Educational Research and Services
The University of North Dakota
Grand Forks, North Dakota

TABLE OF CONTENTS

Section	Title	
A	Review of the Research Effort	Blue
B	Cost/Utility Study	Green
C	A Comparison of Perceptions of Teachers and Aides on Two Scales Relating to Aide Usage	Gold
D	The Teacher Aide Attitude Inventory Study . . .	Yellow
E	A Survey of Parent Opinions about the Use of Teacher Aides	Pink
F	Attitudes toward Teacher-Aide Directed Taped Instruction in the Educable Mentally Retarded Classroom	Buff
G	A Preliminary Attempt to Predict Aide Success from Selected Pre-Employment Variables	Blue

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Dr. Richard Landry, who was not a member of the evaluation team, but shared the writing of Section G;

Mr. Martin Koller and Mr. Donald Gornowich;

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Section	Title	Name
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SECTION A

REVIEW OF THE RESEARCH EFFORT

Since this research report will be the final evaluation of the "Implementation of the Teacher and His Staff Concept," it is perhaps apropos to critically review the various measurement techniques which have been used during the years the project has been in operation. The material in Section A explains the research rationale for each year, cites various studies that were undertaken during the particular years, summarizes the findings, and indicates the probable benefit of replication by other researchers.

Project Year 1967-1968

The rationale for the evaluation during the first year was to identify a control group who were not utilizing aides in their building and compare them on several dimensions over time with the teachers and pupils who were in the experimental schools (i.e. those where the Title III aides were located). An initial administration of the instruments was made in October of 1967, and baseline comparisons between the groups were made. A second administration to the same groups was made in April of 1968 after the experimental group had been working with aides for several months.

The Minnesota Teacher Attitude Inventory (MTAI) was used to test the change in rapport between teachers and pupils during the year. The evaluators found that among the control school teachers (N-75), mean rapport was lower in the spring than in the fall, while among the experimental teachers (N-73), rapport either did not drop or actually was better in the spring than in the fall.

Since the evaluators had attempted to match control and experimental schools on a number of teacher variables, it would appear that the presence of teacher aides in the experimental schools was the major treatment variable which distinguished between the groups. Consequently aides were presumed to have a positive effect on rapport between teacher and children.

Obviously the validity of the assumption about the control and experimental schools was a major question in this as well as the other studies reported in this project year. No significant difference between groups on several measures tends to buttress the contention that the groups were indeed similar in makeup.

The Teacher Aide Attitude Inventory (TAAI) was created as a method to determine attitude toward aides. It was a forced choice instrument which unfortunately was not subjected to reliability or validity checks before its first administration.

The pre administration did not show a significant difference in mean score nor mean item score between the groups. However, in the spring administration, the experimental group had significantly higher mean scores on three of the four factors into which the inventory had been categorized. The problem was what did a high mean score mean?

One of the several ways that the data were analyzed was to divide the experimental teachers in terms of the amount of usage they made of aides who were in their building. Those teachers who scored higher on the inventory were significantly higher in mean aide usage, and tended to use aides in instructional tasks than those who did not. Armed with this evidence, the evaluation team began to attempt to validate an instrument which could be used to test willingness of teachers to use aides. All the evaluation data as well as the intuitive opinion of those connected with the teacher aide project pointed to one cardinal principle. Teachers who used aides effectively were those who had a good opinion of the role of aides.

The Teacher Activity Instrument (TAI) was an interesting and straightforward attempt to assess the type of tasks which teachers believed aides could carry out. Two scales were involved: one which asked how often a teacher performed a given task; and one which asked how often an aide would be able to perform the same task. The mean score of each task (50 items were included) was ranked and the rank order compared. Again, no significant difference was noted on the pre administration, while the post administration exhibited significant rank differences. As might be expected, teachers who had worked with aides were more willing to assign instructional tasks to aides than, either, they had before working with aides, or than the control group at the end of the year.

One of the internal analyses of the data was of interest. Females who worked with aides demonstrated a significant change in the type of duties they felt could be assigned to aides, while males did not exhibit any significant difference from pre to post measures.

The recommendation of the evaluators was to revise certain task statements for increased clarity and to continue use of the instrument during the 1968-1969 evaluation year.

The Flander's Interaction Analysis was employed as a research instrument to determine whether patterns of interaction changed when aides were present. No significant differences which could be ascribed to the effect of aides were discovered. The Flanders is essentially a diagnostic tool, and its research capabilities are limited. It is time consuming and costly to administer. It did not appear to produce results which could not be achieved with less expensive instruments; consequently its use was terminated.

An effort was made to measure change in student achievement which could be ascribed to use of aides. A large experimental and control population was sampled. A test with a retest in the spring using the Iowa Test of Basic Skills produced no significant difference in rate of growth in achievement between the groups. Although the evaluation team was not able to document change in achievement in any systematic manner, it was obvious by observation that certain children were assisted academically by having aides in the room. Apparently the Iowa Test is not sensitive enough to measure change along the dimensions needed in this type of research.

An attempted measure using the Critical Incident Technique proved unsuccessful. Teachers did not understand the purpose, and they soon rebelled against writing the reports. They tended to believe they were being asked to write adverse reports on the aides. If others choose to use this research method with aides, it should be with a small group of teachers, and they should have an extensive explanation and perhaps some in-service training prior to the actual reporting.

In summary, 1967-1968 project evaluation showed that teachers who have worked with aides tend to differ from teachers who have not. No significant difference in student achievement could be detected as a result of aides working with the experimental groups.

Project Year 1968-1969

The evaluation during the initial project year was to compare control and experimental groups. The second year evaluation focused on the experimental group only. The thrust of the project would be to determine if change was linear over time or whether it was in effect one dimensional in nature. A special effort was made to compare teachers who were in the experimental schools for the first time against the change pattern of those who were more experienced.

An exploratory cost/utility study was initiated. Since that study is being continued in the present report, no resume will be made in this section.

The MTAI scores in spring, 1969 were compared to the 1968 scores of the experimental group. There were significantly different mean scores between the 1968 and 1969 administrations, with the 1969 score higher in terms of teacher-student rapport. Teachers who used aides in what were categorized as instructional tasks had higher means than those who used aides in non-instructional functions.

The new teachers were tested before classes began in the fall and their scores compared to the spring, 1968 scores of the other teachers. Although new teachers had significantly lower scores on the pre test, there was no significant difference after one year.

It would appear that teachers who use aides grow in their rapport with children and at the same time present scores which indicate a less authoritarian attitude. Apparently this growth is linear in the sense that scores are significantly higher on each administration. New teachers tend to follow the same pattern during their initial year.

The Teacher Activity Instrument (TAI) searched for linearity of change among teachers in their second year of working with aides. Although some rank changes were noted in terms of the types of tasks teachers would be willing to assign to aides, there was no significant difference. It might be assumed from the data that teachers would continue to grow in terms of a change in opinion about the worth of aides, but, at least in terms of this instrument, the change does not continue to accelerate after the initial year.

The Teacher Activity Instrument was administered to all new teachers in the experimental schools prior to the beginning of the school year. Their responses were not significantly different from those of the pre administration (fall 1967) of the experimental and control teachers. The scores were significantly different from the past (spring 1968) scores of the experimental group. The new teachers were tested with the experienced teachers in the spring of 1969. The responses revealed no significant differences between groups. Thus, it was surmised that even among beginning teachers opinions on teacher aide usage were established within one year.

This instrument appears to have some promise for researchers who wish to assess change. The instrument was used by the researcher in a statewide EPDA B-2 Teacher Aide Evaluation[1] and it discriminated rather well. It is easy to administer, code, and interpret.

An attempt was made to measure differences in morale between teachers who used aides and those who did not. The Purdue Teacher Opinionaire was used, but no useful data was derived. There is apparently no systematic difference between morale of teachers who use aides and those who do not.

Training aides is a fairly expensive undertaking, particularly if the aide resigns or is unhappy in her work. Clearly it would be to the advantage of an employing school district to have a set of criteria which would be correlated with aide success. Predictive studies which employed multiple aide ratings, tasks aides performed, and certain personal variables were not successful in isolating a set of variables which would assist in aide selection. Another attempt to develop predictors is reported in the 1969-1970 study.

A research technique based on the Sematic Differential established by Osgood was employed to test for differences in attitude of students toward teacher aides. Several promising bits of data were derived from an administration to all fourth, sixth, and eighth grade students in the three experimental schools. There appeared to be a significant response difference between students in rooms where aides were employed, particularly where aides performed instructional tasks. This study was exploratory and the plans were to continue it in 1969-1970; however, the person responsible for that portion of the study failed to perform and the opportunity was lost.

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[1] John A. Thompson and Richard Landry, Statewide EPDA B-2 Teacher Aide Evaluation, Research Report No. 1, Bureau of Educational Research and Services, University of North Dakota, Grand Forks, N.D., (April, 1970), p. 101.

Project Year 1969-1970

The major objective of the final evaluation was to test the effect of aides on groups not intimately connected with teaching in the Grand Forks district. To this end a survey of the opinions of parents with children in classes where aides were employed was undertaken. An additional section dealt with attitudes of student teachers and aides in handicapped classes where aides served.

The cost/utility study was expanded to include input from school board members as well as the teacher negotiation teams from Grand Forks. Each of these groups assisted by rating the utility value of the various tasks that aides carried out. These ratings were combined with those of the administration to arrive at a mean utility value which was the basis for the 1969-1970 cost/utility calculation.

Final efforts to validate the TAAI included input from teachers not connected to the Grand Forks system. The purpose of this section was to attempt to create an instrument which would discriminate between attitudes of teachers toward aides, and could be used by schools who were contemplating an aide program.

A comparison of perceptions of aides and teachers in Grand Forks on an Activity Sheet developed for evaluation of ten other teacher aide projects was carried out. The internal comparison was a final evaluation of the degree of compatibility between aides and teachers on the same set of items. The external comparison was to contrast the responses on the

Grand Forks project with those in several similar projects throughout the United States.

Several Title III aides participated in a study made for the purpose of determining whether there are valid predictors of aide success which could be used as an aid in hiring practices. The results of this are included in this report even though a portion of the population were aides not connected to the Title III project.

This is the final evaluation report; much research data has been gathered. This section is a report on the sources and failure of the evaluation of the three years. The researcher hopes the findings will have both research as well as practical applications in the training and utilization of teacher aides in the future.

SECTION B

COST/UTILITY STUDY

During the 1968-1969 evaluation year, an exploratory cost/utility study was begun. The major objective of the study was to develop a method of calculating a cost/utility ratio based upon the direct instructional costs chargeable to teacher aides. The underlying purpose of the study was to determine whether or not aides were contributing to an efficient school operation. The research results appeared to indicate that based on the criteria established by the school administration, several aides had produced a negative cost/utility ratio.

A disclosure of this kind raised more questions than it answered:

1) Were the criteria which were used to determine the utility of the aides a sound basis for judgement?
2) Were the data gathering techniques adequate to make cost/utility determinations accurate?
3) Does the cost/utility and percentage of average time usage of the aides change from one year to another?
4) Is the concept of cost/utility a feasible research tool to employ to evaluate teacher aides?

These questions formed the basis for the continuation of the cost/utility study during the 1969-1970 evaluation year.

Instrumentation

The Teacher Aide Log remained the primary instrument for gathering the raw data on the time the aides spent in various tasks throughout the school day. A complete explanation of the development of the log may be found in the 1968-1969 research report (see pages C-2, C-3, C-4). A short explanation is included in this report for those who do not have access to last year's report.

The Teacher Aide Log had the tasks of the aide divided into six categories: A) Clerical out-of-class, B) A-V material and equipment, C) Clerical in-class, D) Supervision, E) Instruction, and F) Other. In each category were several descriptive terms which identified various tasks the aides might do.

The reverse side of the log was divided into quarter hour segments. The aide wrote the appropriate number of the task she was doing during a given time of the day and the teacher with whom she was working.

A utility factor was assigned to each item. The factor was determined by asking three panels, A) school board members, B) teachers as represented by the members of the TEAM, the teacher negotiation committee, and C) a panel of administrators, to rate each task in terms of the dollar and cents utility which one hour of work at the given task would produce for the school system. Each panel member was given the following information and directions:

1) The current federal minimum wage rate ($1.45).
2) The average hourly wage for the aides ($1.70).
3) Each rater was told that there were no upper or lower limits on the utility value they could assign to each task.
4) The rater was to assume each aide to be competent to perform the task in a satisfactory manner; thus the utility factor

would reflect an average level of competency.

5) Each rater was asked to do his rating independently.

6) The researcher would be available to answer specific questions on items (very few questions were posed).

The responses from the individuals were averaged within the referent group; then the three group means were averaged to arrive at a grand mean utility factor for each task.

There were no major differences in utility values between the groups. Board members had the tendency to rate tasks under the category of Instruction somewhat lower in value than did the teachers and the administrators. Administrators tended to rate clerical duties lower than the other groups, and the teacher group was slightly higher on all tasks than the other two groups.

The inclusion of the teachers and board members as raters was an expansion of the project from the previous year. In 1968-1969 the administrators were the only group involved in rating the tasks. This extension was in keeping with the previously stated objective of enlarging the participating groups during the last year of the project.

The grand mean for each item are reported in Figure I.

This system of rating tasks might be considered a form of objective setting by the decision makers in the district. This method may have merit for boards as a method of determining productivity among aides. As educational costs rise, the question of educational productivity will be raised more often. This is one method, perhaps imperfect, of determining district goals for certain classes of educational personnel. Supply and

HOURS SPENT PER WEEK		TASK
		A CLERICAL OUT-OF-CLASS
$1.75	11	Typing-instructional (classroom materials, tests, etc.)
1.95	12	Typing-non-instructional (letters to parents, etc.)
1.40	13	Duplicating (including collating)
1.55	14	Filing (office or classroom)
1.70	15	Recording student information (marks, records, etc.)
1.90	16	Maintaining inventory (classroom/workroom supplies)
1.70	17	Preparing bulletin boards/displays of pupil work
2.00	18	Correcting student tests, workbooks, homework
1.80	19	Assisting principal in general office routine
		B AUDIO-VISUAL MATERIALS AND EQUIPMENT (INCLUDING BOOKS)
1.80	31	Scheduling and operating A-V equipment
1.90	32	Finding/ordering supplementary books and A-V materials
2.00	33	Preparing A-V materials
		C CLERICAL IN-CLASS
1.50	41	Collecting lunch or milk money, donations, etc.
1.35	42	Writing passes (to restroom, library, office, etc.)
1.55	43	Taking classroom attendance (roll, seating, escuses, etc.)
1.70	44	Distributing/collecting student material (tests, handouts)
2.05	45	Serving as classroom librarian (check out books, records)
2.10	46	Writing materials on chalkboard at teacher's request
		D SUPERVISION
2.30	51	Monitoring tests (including make-up)
2.90	52	Supervising individual learning sessions (oral, taped, etc.)
2.00	53	Providing general supervision (clean-up, monitoring halls)
2.40	54	Supervising study periods (class, library, study hall)
2.80	55	Helping supervise field trips, plays, programs
2.85	56	Supervising student recreation periods (gym, playground)
2.20	57	Handling classroom interruptions at teacher's request
		E INSTRUCTION
3.75	81	Instructing part of class under teacher direction in individual or small group learning sessions
3.75	82	Instructing whole class under teacher direction in special areas of competency
3.45	83	Providing make-up lessons for students absent or out-of-the classroom
3.40	84	Assisting teacher with demonstrations
3.45	85	Reading materials to pupils under teacher supervision (spelling words, stories, etc.)
		F OTHER
1.50	91	When using this number, please describe what you did in the space provided or attach another sheet of paper if the space is insufficient.

Figure 1--Mean Utility Value Per Task

demand, as well as other variables, play a part in the compensation rate of any wage earner. However, the organizational utility of the job performed has an equal if not greater effect on the compensation rate. Therefore, the determination of utility may be an important part of determining wage structure.

Collection of the Data

During the 1968-1969 evaluation year, each aide kept a log for each week in the school year. Careful analysis of that data revealed no significant changes in the task patterns of one week when compared to the other three weeks in a given month. Consequently, the aides were required to keep the log for only one week in each month in 1969-1970. This change was received with enthusiasm by the aides.

The Teacher Aide Logs were collected by the Project Director, Mrs. Margaret Abbott, and forwarded to the Bureau of Educational Research and Services. The data were checked for inaccurateness and punched on IBM cards.

The computer program tabulated the data by the following categories: item, average utility per month and total average utility rate, and aide usage.

Direct costs included the per hour salary of each aide and the per hour fringe benefit for each incumbent.

Hypotheses

1) All aides would exhibit a cost/utility ratio greater than 1.00.
2) Positive utility (above 1.00) is a function of the percentage of time reported in each category.

Presentation of the Data

The cost/utility ratio (u/c x 1.00) was calculated from the data table which contained the following information: the identification number of the aide; the number of hours each aide reported working at each task (see numbers 10 through 91 on the Teacher Aide Log at the end of this section) multiplied by the utility factor assigned to that task (see page 14) and the total divided by the number of hours worked. The cost data included the per hour salary and fringe benefit which included Social Security, Workman's Compensation, and Old Age Survivors Insurance.

Table I presents the cost/utility ratio for each aide based on the above calculations.

Twelve of the fourteen aides in the study achieved a positive cost to utility ratio. The mean ratio was 1.13. These data can be corresponded to the 1968-1969 study in which only six of the fourteen aides had a cost/utility ratio higher than unity, and the average cost/utility was .96.

Three interactive factors contributed to the significant change in utility figure between the two years. First, the use of a larger number and more varied group of persons determining the utility value of each task had the effect of raising the utility figures an average of ten per cent above the values assigned to the tasks the previous year. Second, the salary increase for aides was well below ten per cent; in fact, it was roughly four per cent over the 1968-1969 figure. Third, there were significant changes in the types of tasks the teachers allowed aides to carry out in the classroom. Many of the tasks aides performed during 1968-1969 were those assigned a higher utility figure; thus the ratio was higher.

TABLE I

DIRECT COSTS PER HOUR, AVERAGE UTILITY RATE AND UTILITY/COST RATIO FOR TEACHER AIDES DURING 1969-1970

AIDE NO.	MO.SALARY	HR.RATE	EST.HR. FRN.BEN.	TOTAL HR. RATE	AV.HR. UTIL.RATE	COST/UTIL. RATIO
101	250.00	1.67	.08	1.75	1.92	1.09
102	250.00	1.67	.08	1.75	1.87	1.06
103	250.00	1.67	.08	1.75	1.87	1.06
104	260.00	1.73	.08	1.81	1.92	1.06
105	260.00	1.73	.08	1.81	1.70	.93
106	250.00	1.67	.08	1.75	2.03	1.16
107	250.00	1.67	.08	1.75	2.33	1.33
108	260.00	1.73	.08	1.81	1.64	.90
201	260.00	1.73	.08	1.81	1.88	1.03
202	260.00	1.73	.08	1.81	1.81	1.00
203	255.00	1.70	.08	1.78	1.98	1.11
204	255.00	1.70	.08	1.78	2.38	1.33
301	275.00	1.83	.08	1.91	2.50	1.31
302	260.00	1.73	.08	1.81	2.64	1.45
MEAN	256.00	1.71	.08	1.79	2.03	1.13

Table II arrays the percentage of time each aide spent in tasks in the six categories, A) clerical out-of-class, B) audio-visual materials and equipment (including books), C) clerical in-class, D) supervision, E) instruction, and F) other tasks, and the cost/utility ratio which each aide

TABLE II

PER CENT OF TIME EACH AIDE SPENT IN VARIOUS CATEGORIES OF WORK, AVERAGE FOR ALL AIDES AND THE COST/UTILITY RATIO FOR AIDES,1969-1970

AIDE NO.	A	B	C	D	E	F	COST UTIL.RATIO
302	17	0	0	16	63	4	1.45
107	35	0	0	16	44	5	1.33
204	31	2	0	10	50	7	1.33
301	23	1	1	20	52	3	1.31
106	54	0	0	18	20	8	1.16
203	47	1	0	27	15	10	1.11
101	60	0	3	14	22	1	1.09
102	51	2	1	41	0	5	1.06
103	33	0	0	36	11	20	1.06
104	58	1	0	20	15	6	1.06
201	53	11	0	26	7	3	1.03
202	68	3	5	19	0	5	1.00
105	88	4	1	1	0	6	.93
108	88	3	3	1	0	6	.90
MEAN	50.5	1.9	.9	18.9	21.4	6.4	1.13

achieved (the same data from the 1968-1969 study is also presented as additional information, and is called Table IV).

The aides who spent the largest percentage of their time in Category E), instruction, had the highest cost utility ratio. The aides who spent the largest percentage of their time in clerical tasks outside the classroom had the lowest cost/utility ratios. Among all the aides, only a very small percentage of time was used in working with audio-visual equipment and materials. However, in a statewide training of teacher aides (EPDA B-2) study recently completed by the researcher, the most common complaint of the aides was that they did not have sufficient training in the use of audio-visual equipment. Perhaps the lack of familiarity is a reason for comparatively little time spent in this area.

It is difficult to generalize about the usage patterns which make for successful cost/utility ratio, since many patterns are manifest among the various aides. Aide usage is, to a great extent, a function of the teachers with whom the aides work. Obviously education of these teachers is part of the necessity for efficient aide utilization.

A reprint of the table which dealt with time percentage in the 1968-1969 study is listed in Figure 2 (reprint) and is included as part of the comparison of the change in aide usage. To test the question of change over time, a statistical comparison of proportions was undertaken. The data are presented in Table III.

Small sample size was a limiting factor in comparing the critical difference in proportions between categories of usage in 1968-1969 and 1969-1970. The major change was in the area of tasks labeled E), instruction. Aides spent nearly double the percentage of time in that category in 1969-1970 than in 1968-1969. Obviously this was a major change; yet with a sample size of fourteen, it did not register as a statistically significant change. It is important to note that teachers allowed aides

TABLE III

ANALYSIS OF CRITICAL DIFFERENCE OF ACTIVITIES PERFORMED BY AIDES

ACTIVITY	PER CENT OF TIME SPENT IN ACTIVITY IN 1968-1969	PER CENT OF TIME SPENT IN ACTIVITY IN 1969-1970	Z SCORE	LEVEL OF SIGNIFICANCE*
A	47	50.5	.187	N.S.
B	5.2	1.9	.139	N.S.
C	2.7	.9	.321	N.S.
D	26.7	18.9	.494	N.S.
E	11.9	21.4	.709	N.S.
F	6.2	6.4	.022	N.S.

* at the .05 level

to, in a sense, upgrade the category of tasks they were performing. It would appear that teachers are recognizing the latent capabilities of the aides.

Summary and Conclusions

Four research questions were posed on page B-1 . The summary will deal with these questions.

1) Were the criteria used to determine utility reasonable to make that determination? There are two major methods for determination of compensation: supply and demand, and productivity or utility of the worker. The utility concept implies that each task and employee does have a certain value to the institution.

TABLE IV

PERCENT OF TIME EACH AIDE SPENT IN VARIOUS CATEGORIES OF WORK, AVERAGE FOR ALL AIDES AND THE COST UTILITY RATIO FOR AIDES

Aide No.	A	B	C	D	E	F	Cost/Util. Ratio
0802	22%	4%	0%	15%	51%	8%	1.48
0801	33%	5%	0%	27%	31%	3%	1.22
0702	23%	13%	1%	26%	27%	10%	1.193
0603	50%	0%	1%	33%	14%	2%	1.036
0705	48%	12%	0%	17%	16%	7%	1.066
0701	48%	13%	1%	33%	3%	3%	1.007
0704	34%	2%	1%	43%	10%	10%	.987
0703	52%	6%	0%	26%	7%	9%	.923
0601	37%	6%	1%	48%	5%	2%	.93
0602	57%	1%	2%	25%	0%	15%	.876
0605	46%	5%	1%	42%	2%	3%	.873
0706	69%	4%	4%	22%	1%	1%	.828
0606	75%	2%	0%	9%	0%	14%	.773
0604	64%	0%	26%	8%	0%	0%	.739
Average	47%	5.2%	2.7%	26.7%	11.9%	6.2%	
Median	48	4.5	N/A	26	6	5	
Q_1	33.5	1.5	N/A	16	.5	2	
Q_3	60.5	9.0	N/A	37.5	21.5	10	

Figure 2--Percentage Table From 1968-69 Evaluation Report

Determination of that value is part of the institutional mission. Three separate groups were asked to determine the value of the tasks aides perform in the schools. Each group looks at utility from its own point of view, thus the degree to which these groups agree to the utility of various tasks is a measure of the validity of using this technique. There was little disagreement among the groups when they were asked to rate tasks on a dollar and cents basis. The average figure used to express utility was a reasonable method to determine the worth of each task.

2) Were the data gathering techniques adequate to make accurate cost/utility determinations? In 1968-1969, aides kept logs each week. In 1969-1970, they were kept for one week of each month. Comparison of the percentage of time adies spent in various activities revealed a significant change in only one category, that of instruction. Collecting data for one week of each month does not appear to affect the accuracy of the data and would appear to be a satisfactory method.

3) Did the cost/utility and the average time usage of the aide change from 1968-1969 to 1969-1970? Positive cost/utility among aides was much greater in 1969-1970 than previously. Only two aides failed to achieve a positive ratio in 1969-1970, while eleven failed in 1968-1969. Use of a grand mean utility figure for each task in 1969-1970 had the effect of revising the value of the tasks about ten per cent while salaries did not increase that rapidly. Also, aides were used more in certain higher value tasks than previously. These reasons had the effect of raising

the cost/utility for many of the aides.

Percentage of time spent in categories of aide usage changed in one area, that of instruction. It is obvious that teachers assigned aides to carry out instructional tasks more often in 1969-1970 than in 1968-1969. The other categories did not change dramatically.

Building administrators and teachers were more aware of the possibilities of aide usage and the aide's time was used in more productive pursuants during 1969-1970.

4) Is the concept of cost/utility a feasible research tool to employ for evaluation of teacher aides? No single tool will answer all questions about teacher aides. However, this method appears to have excellent evaluative possibilities. It forces boards and administrators to set specific objectives for aides to meet if they are to be cost effective in schools. Likewise, it provides a measure to evaluate achievement of the stated objectives. The research method is not expensive nor time consuming. The data can be fed to a computer and analysis is accomplished quickly. This tool can be used over short time spans; thus feedback loops can be established. Measurement of productivity will assume major proportions in schools as costs rise. It would appear that the cost/utility technique is a feasible method for evaluating aide productivity.

Week ____________________ List of Work Assignments Name ____________________

School ____________________

Hours spent
per week:

A CLERICAL-OUT OF CLASS

__________11 Typing-Instructional (classroom materials, tests, etc.)
__________12 Typing-Non-instructional (letters to parents, orders for materials, etc.)
__________13 Duplicating (including collating)
__________14 Filing (office or classroom)
__________15 Recording student information (record and/or average marks, maintain cumulative records, etc.)
__________16 Maintaining inventory (classroom and/or workroom materials and supplies)
__________17 Preparing bulletin boards and displays of pupil work
__________18 Correcting student tests, workbooks, homework, etc.
__________19 Assisting principal in general office routine

B AUDIO-VISUAL MATERIALS AND EQUIPMENT (INCLUDING BOOKS)

__________31 Scheduling and operating A-V equipment
__________32 Finding and ordering supplementary books and A-V materials
__________33 Preparing A-V materials

C CLERICAL-IN CLASS

__________41 Collecting lunch or milk money, donations to United Fund, etc.
__________42 Writing passes (to restroom, library, office, etc.)
__________43 Taking classroom attendance (call roll, keep seating chart, keep excuse and tardiness notes, etc.)
__________44 Distributing and collecting student material (homework, workbook, tests, handouts, etc.)
__________45 Serving as classroom librarian (check out books, keep records of books read, etc.)
__________46 Writing materials on chalkboard at teacher's request

D SUPERVISION

51 Monitoring tests (including make-up)
__________52 Supervising individual learning sessions (pupil oral reading, taped lessons, etc.)
__________53 Providing general supervision (clean-up and help with winter clothes, monitoring hallways and lunchroom, after school, etc.)
__________54 Supervising study periods (in class, library, study hall, seat work, etc.)
__________55 Helping supervise field trips, plays, programs
__________56 Supervising student recreation periods (gym, playgrounds, etc.)
__________57 Handling classroom interruptions at teacher's request

E INSTRUCTION

__________81 Instructing of part of class under teacher direction in individual or small group learning sessions (include art, music, etc.)
__________82 Instructing of whole class under teacher direction in special areas of competency (include art, music, etc.)
__________83 Providing make-up lessons for students absent or out-of-the-classroom
__________84 Assisting teacher with demonstrations
__________85 Reading materials to pupils under teacher supervision (spelling words, stories, etc.)

F OTHER

__________91 When using this number please describe what you did in the space provided, or attach another sheet of paper if the space is insufficient.

Week________________

TEACHER AIDE LOG

Name________________
School________________

Monday			Tuesday			Wednesday			Thursday			Friday		
Hr.& Min.	Task	Tchr.	Hr.& Min.	Task	Tchr.	Hr.& Min.	Task	Tchr.	Hr.& Min.	Task	Tchr.	Hr.& Min.	Task	Tchr.
8:00			8:00			8:00			8:00			8:00		
9:00			9:00			9:00			9:00			9:00		
10:00			10:00			10:00			10:00			10:00		
11:00			11:00			11:00			11:00			11:00		
12:00			12:00			12:00			12:00			12:00		
1:00			1:00			1:00			1:00			1:00		
2:00			2:00			2:00			2:00			2:00		
3:00			3:00			3:00			3:00			3:00		
4:00			4:00			4:00			4:00			4:00		

If you have any additional comments, write them on a separate sheet of paper and attach to this.

SECTION C

A COMPARISON OF PERCEPTIONS OF TEACHERS AND AIDES ON TWO SCALES RELATING TO AIDE USAGE

A number of evaluation comparisons of one type or another have been made during the three years of this project. However, this section is the only one which matches the perceptions of both teachers and aides on the same set of criteria. The instrument used is an adaption of a profile sheet created by the Bank Street College of Education to measure the degree of change in perception of teachers toward aides on a pre - post basis in ten teacher aide studies throughout the United States. The profile sheet is used somewhat differently in the present study; however comparisons can be made to certain data reported in the Bank Street Study by G.W. Bowman and G.F. Klopf titled New Careers and Roles in the American School.[1]

The longivity of the Grand Forks aides and teachers who responded to the instrument ranged from one to three years, with the majority of both groups having worked with aides or as aides for two school years. Thus, with this extensive background of experience, it would appear that both groups were qualified to respond to the instrument. The measure of agreement between their perceptions on the types of jobs aides might do and whether the job would be helpful or harmful to the school and its pupils will undoubtedly shed light on the congruity between the groups. One would assume that after three years of working with or as an aide, there would be a high degree of agreement on the "proper" function of aides. That assumption will be tested in this section.

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[1] G.W. Bowman and G.J. Klopf, New Careers and Roles in the American School, Final report of a study conducted by Bank Street College of Education for the Office of Economic Opportunity, Washington, D.C. (New York: Bank Street College of Education, 1968).

Hypotheses

1. There will be a statistically significant correlation between teachers and aides when judging how helpful each of the activities in the instrument would be to the school and the pupils.

2. There will be a statistically significant correlation between teachers and aides when judging how often an aide is likely to do a specific task.

3. Teachers will exhibit no significant difference between their mean rating for the top twenty-five ranked items on the scale of the helpfulness to the school and pupils if an aide carries out a particular activity and the scale of how often an aide is likely to carry out a particular task.

4. Aides will exhibit no significant difference between their mean rating for the top twenty-five ranked items on the scale of the helpfulness to the school and pupils if an aide carries out a particular activity and the scale of how often an aide is likely to carry out a particular task.

Instrumentation and Treatment

The Activity Sheet was constructed, field-tested and previously administered by the Bank Street College (a copy of the Activity Sheet may be found at the end of this section). The instrument consisted of ninety-five items with two scales for each item. The first scale offered four choices entitled, "Very helpful", "Somewhat helpful", "Somewhat harmful" and "Very harmful" on a scale entitled, "How helpful to the pupils and the school do you think it would be if an aide did this?"

The second scale, also a four point choice system, was based upon the words, "Most of the time", "Often", "Seldom" and "Never." The question involved was, "How often do you believe an aide is likely to do this job?"

In addition, each activity was descriptively categorized by the test makers into one of the following terms:

Cognitive	Affective
Clerical	Monitored
Teacher function	Technical
Poor practice	General

These words did not appear on the inventory which was administered to the sample.

The responses were tabulated by item, and a mean item score was obtained for both teachers and aides on both scales. A correlation program was run on the entire ninety-five items in each scale. The Coefficient of Correlation (r) was computed to determine the measure of agreement between groups.

The data which is reported descriptively are the twenty-five items with the highest means and the lowest means for both groups. Comparisons among the items are also made in terms of the categories assigned each activity in the inventory. A 't' test of related means was computed to test the difference, if any, between the right and left hand scales of the top twenty-five ranked items.

The Population

The population included all teachers and all aides in the three experimental schools. The sample included the total population. The measure was a simple post hoc comparison of different but related groups on the same scale. No causal relationships are implied other than the empiric fact that the groups had worked together for an extended period of time.

Presentation of the Data

The data are presented in a series of tables which include the twenty-five items with the highest and lowest mean scores. The items were scaled from "Very helpful" (four) to "Harmful" (one), and from "Often" (four) to "Never" (one) on the second comparison.

Table I presents the rank (from one to 25), the number of the item from the Activity Sheet which has a mean corresponding to the numerical rank (the activity which accompanies the number may be secured from the sample Activity Sheet which is found at the end of this section), and the mean score for both teachers and aides. The aide activity numbers marked by an asterisk indicate that the item also appeared in the top twenty-five items on the teacher section.

The most striking finding is that of the top twenty-five items ranked by the teachers, twenty-two appear in the same quartile of the aide rankings. Although the twenty-two items do not have identical rank orders, they tend to cluster. For example, of the top six ranked items on the teacher selection, four of the same items appear in the top six rankings by the aides. The mean of the top ranked items are in a similar range, which indicates quantitative agreement as well as rank agreement.

Table II presents the same data as Table I, but the items are the

TABLE I

RANK, ACTIVITY NUMBER, AND ITEM MEAN FOR TEACHERS AND AIDES ON THE TWENTY-FIVE HIGHEST RANKED ITEMS ON THE SCALE "HOW HELPFUL TO THE PUPILS AND SCHOOL DO YOU THINK IT WOULD BE IF AN AIDE DID THIS?"

TEACHER			AIDE		
RANK	ACTIVITY NO.	ITEM MEAN	RANK	ACTIVITY NO.	MEAN
1	4	3.84	1	14*	3.90
2	34	3.82	-	23*	3.90
3	5	3.81	3	29*	3.80
4	14	3.73	-	34*	3.80
-	23	3.73	5	40*	3.75
6	3	3.69	-	4*	3.75
7	29	3.66	7	3*	3.70
8	28	3.62	-	5*	3.70
9	40	3.54	-	37*	3.70
10	54	3.48	-	59*	3.70
-	66	3.48	-	71*	3.70
12	56	3.46	-	73	3.70
-	68	3.46	-	83*	3.70
14	44	3.45	-	95	3.70
15	1	3.42	15	19*	3.65
-	13	3.42	-	28*	3.65
-	37	3.42	17	54*	3.60
18	21	3.40	-	56*	3.60
19	19	3.39	-	66*	3.60
20	91	3.38	-	68*	3.60
21	59	3.37	-	94*	3.60
-	71	3.37	22	45	3.55
-	94	3.37	-	91*	3.55
24	83	3.34	-	33	3.50
25	49	3.31	-	13	3.50
-	61	3.31	-	-	-
-	92	3.31	-	-	-

*Those items marked with an asterisk are included on the top twenty-five items of the teacher ranking.

TABLE II

RANK, ACTIVITY NUMBER, AND ITEM MEAN FOR TEACHERS AND AIDES ON THE TWENTY-FIVE LOWEST RANKED ITEMS ON THE SCALE "HOW HELPFUL TO THE PUPILS AND SCHOOL DO YOU THINK IT WOULD BE IF AN AIDE DID THIS?"

TEACHER			AIDE		
RANK	ACTIVITY NO.	ITEM MEAN	RANK	ACTIVITY NO.	MEAN
1	70	1.282	1	20*	1.050
-	58	1.282	2	24*	1.150
-	20	1.282	3	46*	1.450
4	24	1.329	-	7*	1.450
5	46	1.376	5	70*	1.500
6	72	1.447	-	58*	1.500
-	60	1.447	-	2	1.500
8	86	1.529	8	86*	1.600
9	39	1.612	9	9*	1.650
10	9	1.647	10	72	1.950
11	35	1.671	-	60*	1.950
12	32	1.718	-	42	1.950
-	27	1.718	13	39*	2.050
14	7	1.741	-	30	2.050
15	30	1.765	15	35	2.100
16	42	1.776	-	11	2.100
17	64	1.871	17	32*	2.150
-	52	1.871	18	27*	2.450
-	11	1.871	19	47	2.550
20	77	1.965	20	16*	2.600
21	2	2.012	21	77*	2.650
22	75	2.024	22	64*	2.650
23	89	2.235	-	63	2.650
24	16	2.424	-	52*	2.650
25	79	2.435	-	51	2.650

*Those items marked with an asterisk are included on the top twenty-five items of the teacher ranking.

twenty-five lowest ranked by both teachers and aides on the scale, "How helpful to the pupils and school do you think it would be if an aide did this?"

Eighteen of the lowest ranked twenty-five items by teachers likewise appeared on the aide rank. Each of the top fourteen items appeared. The range of means of the lower quartile items were very close for the two groups.

There was obviously close agreement between teachers and aides on the top and bottom quartile of items. The overall correlation coefficient for all ninety-five items was also very high ($r=.96$). A correlation coefficient of this magnitude is significantly different from zero at the .01 level. Since $r^2=.92$, one can also observe that 92 per cent of the variability in the rating of items of one group can be accounted for in the rating by the other group. This statistic indicates nearly complete agreement between the two groups in what activities an aide should perform in the school.

The original Activity Sheet developed by Bowman and Klopf categorized each activity by function (see page C-3 for a list of the descriptive terms used). No research data were provided about the method of assigning a descriptive term to an activity. It is assumed that the divisions were made intuitively.

Table III summarizes the data on the number of items among those ranked in the top twenty-five by teachers and by aides which correspond to the descriptive category. The second part of the table reports the same information on the lowest ranked items.

Both groups listed the activities which were classed affective

TABLE III

DESCRIPTIVE TERMS, FREQUENCY, AND CORRESPONDING ITEM NUMBERS FOR THE TOP TWENTY-FIVE RANKED ITEMS ON THE SCALE, "IT WOULD BE HELPFUL IF THE AIDE PERFORMED THIS ACTIVITY

TEACHER			AIDE		
DESCRIPTIVE TERM	FREQUENCY	ITEM NO.	DESCRIPTIVE TERM	FREQUENCY	ITEM NO.
Affective	6	3,68,21,13, 83,49	Affective	6	3,73,83,95, 68,13
Cognitive	7	23,56,33,1, 91,59,92	Cognitive	6	23,59,56, 45,91,33
Clerical	4	4,5,29,37	Clerical	4	29,4,5,37
General	4	28,54,66, 71	General	4	71,28,54, 66
Monitorial	2	40,19	Monitorial	2	40,19
Technical	3	34,14,61	Technical	2	14,37

or cognitive with the greatest frequency as things which aides could do which would be most helpful to schools and students. It is interesting to note that nearly one half of the items are rated in other than clerical functions.

Table IV presents data on the scale, "How often should an aide do this job?" The descriptions can then be compared with those in Table III.

The frequency of the various descriptive functions of the activities does not appear to change radically between Table III and Table IV. Nor does it change in terms of the comparison between teachers and aides. It appears that the activities called affective and cognitive are both the

TABLE IV

DESCRIPTIVE TERMS, FREQUENCY, AND CORRESPONDING ITEM NUMBERS FOR THE TOP TWENTY-FIVE RANKED ITEMS ON THE SCALE, "HOW OFTEN SHOULD AN AIDE DO THIS JOB?"

TEACHER			AIDE		
DESCRIPTIVE TERM	FREQUENCY	ITEM NO.	DESCRIPTIVE TERM	FREQUENCY	ITEM NO.
Affective	7	68,83,49,73, 3,13,84	Affective	6	3,95,68,73, 83,49
Cognitive	5	23,56,91,59, 33	Cognitive	6	23,91,33, 59,56,45
Clerical	4	29,37,4,5	Clerical	4	29,37,4,5
Monitorial	2	40,19	Monitorial	3	46,22,19
Technical	3	34,14,61	Technical	3	34,14,61
			Teacher-Function	2	94,79

most helpful and the most often carried out by aides.

Comparison Between Grand Forks Teachers and a National Sample of Teachers

The Grand Forks teacher perceptions of the activities classed by the descriptive categories may also be compared to the perceptions of the teachers in fifteen training projects throughout the United States (as reported by Bowman and Klopf). Table V exhibits that data.

The national sample stressed the affective activities slightly more than the Grand Forks teachers, and the clerical and general tasks somewhat less. They also had two teacher-function items (94), taking responsibility for a class for a few minutes when the teachers is called away,

TABLE V

A COMPARISON OF GRAND FORKS TEACHERS AND A NATIONAL SAMPLE OF TEACHERS ON DESCRIPTIVE TERMS, FREQUENCY AND CORRESPONDING ITEM NUMBERS FOR THE TOP TWENTY-FIVE RANKED ITEMS ON THE SCALE "IT WOULD BE HELPFUL IF THE AIDE PERFORMED THIS ACTIVITY."

GRAND FORKS TEACHERS			NATIONAL SAMPLE OF TEACHERS		
DESCRIPTIVE TERM	FREQUENCY	ITEM NO.	DESCRIPTIVE TERM	FREQUENCY	ITEM NO.
Affective	6	3,68,21,13, 83,49	Affective	8	6,21,3,13,83, 87,73,84
Cognitive	7	23,56,33, 1,91,59,92	Cognitive	6	23,87,73,84, 23,33,56
Clerical	4	4,5,29,37	Clerical	2	4,37
General	4	28,54,66, 71	General	2	72,28
Monitorial	2	40,19	Monitorial	2	40,19
Technical	3	33,14,61	Technical	3	44,14,34
			Teacher-Function	2	94,8

and (8) stopping pupils from fighting. These two items may be a reflection of the urban character of the National projects. Generally, however, the two groups agreed on the type of activities they think aides would be most helpful in performing.

Another comparison of the ranking of activities by the Grand Forks teachers and the national sample is presented in Table VI.

Seventeen of the twenty-five items appear in the rankings of both groups, although they are not in a similar order within the listing.

TABLE VI

RANK, ACTIVITY NUMBER, AND ITEM MEAN FOR GRAND FORKS TEACHERS AND A NATIONAL SAMPLE OF TEACHERS ON THE TWENTY-FIVE HIGHEST RANKED ITEMS ON THE SCALE "HOW HELPFUL TO THE PUPILS AND THE SCHOOL DO YOU THINK IT WOULD BE IF AN AIDE DID THIS."

GRAND FORKS TEACHERS			NATIONAL SAMPLE TEACHERS		
RANK	ACTIVITY NO.	ITEM MEAN	RANK	ACTIVITY NO.	ITEM MEAN
1	4	3.84	1	23*	3.86
2	34	3.82	2	4*	3.85
3	5	3.81	3	6	3.83
4	14	3.73	4	1*	3.81
-	23	3.73	5	28*	3.78
6	3	3.69	6	8	3.78
7	29	3.66	7	21*	3.74
8	28	3.62	8	3*	3.70
9	40	3.54	9	37*	3.67
10	54	3.48	10	40*	3.67
-	66	3.48	11	94*	3.67
12	56	3.46	12	13*	3.60
-	68	3.46	13	83*	3.58
14	44	3.45	14	19*	3.51
15	1	3.42	15	33	3.46
-	13	3.42	16	72	3.40
-	37	3.42	17	87	3.40
18	21	3.40	18	73	3.40
19	19	3.39	19	56*	3.35
20	91	3.38	20	44*	3.32
21	59	3.37	21	84	3.32
-	71	3.37	22	53	3.30
-	94	3.37	23	14*	3.28
24	83	3.34	24	34*	3.22
25	49	3.31	25	59*	3.21
-	61	3.31	-	-	-
-	92	3.31	-	-	-

*Those items marked with an asterisk are included on the top twenty-five items of the teacher ranking.

Number six, helping pupils learn to settle fights, and eight, stopping fights, are two which rank high in the national sample, but do not appear in the Grand Forks ranking. Activity 33, reading stories to pupils, does not appear, perhaps because roughly one-third of the Grand Forks teachers are at the Junior High School level, where this activity would not be appropriate. It is obvious by inspection that the perceptions of the Grand Forks teachers are congruent with those of the national sample of teachers.

Comparisons between Teachers and Aides on the Second Scale

Table VII summarizes the data by rank, activity and mean for teachers and aides in terms of the scale related to how often an aide might carry out various activities.

Twenty-one of the twenty-five items are common to both sides of the table. The top six ranked items are matched in all but one case, although not in the same rank order. The mean of the aides on the items is somewhat higher than the teachers', indicating a stronger belief that they should be allowed to do the tasks they rate as "most of the time" on the rating scale.

The data on the lowest ranked twenty-five items are presented in Table VIII.

As was the case in the other tables, there is relatively strong agreement between aides and teachers on the items which aides should not do. Comparison of the means show nearly complete congruence in terms of the magnitude of the agreement.

The coefficient of correlation was calculated on the scale, "How

TABLE VII

RANK, ACTIVITY NUMBER AND ITEM MEAN FOR TEACHERS AND AIDES ON THE TWENTY-FIVE HIGHEST RANKED ITEMS ON THE SCALE, "HOW OFTEN DO YOU BELIEVE AN AIDE IS LIKELY TO DO THIS ON THE JOB?"

TEACHER			AIDE		
RANK	ACTIVITY NO.	ITEM RANK	RANK	ACTIVITY NO.	ITEM RANK
1	34	3.553	1	40*	3.800
2	5	3.341	-	34*	3.800
3	23	3.388	3	28*	3.700
4	28	3.247	4	29*	3.650
5	40	3.235	5	23*	3.600
6	29	3.224	6	37*	3.500
-	14	3.224	7	5*	3.450
-	4	3.224	8	94	3.350
9	37	3.212	-	14*	3.350
10	68	3.141	-	4*	3.350
-	56	3.141	11	91*	3.250
12	91	3.082	-	22	3.250
13	59	3.071	13	33*	3.100
-	71	3.071	-	19*	3.100
15	66	3.047	-	3*	3.100
-	54	3.047	16	71*	3.050
17	83	3.012	-	59*	3.050
-	61	3.012	18	95	3.000
-	49	3.012	-	68*	3.000
20	73	3.000	-	56*	3.000
-	3	3.000	-	45	3.000
22	13	2.988	22	79	2.950
23	84	2.931	23	73*	2.950
24	19	2.929	24	83*	2.900
25	33	2.918	-	61*	2.900

*Those items marked with an asterisk are included on the top twenty-five items of the teacher ranking.

TABLE VIII

RANK, ACTIVITY NUMBER AND ITEM MEAN FOR TEACHERS AND AIDES ON THE TWENTY-FIVE LOWEST RANKED ITEMS ON THE SCALE, "HOW OFTEN DO YOU BELIEVE AN AIDE IS LIKELY TO DO THIS ON THE JOB?"

TEACHER			AIDE		
RANK	ACTIVITY NO.	ITEM MEAN	RANK	ACTIVITY NO	ITEM RANK
1	20	1.035	1	24*	1.100
2	72	1.141	-	20*	1.100
-	60	1.141	3	70*	1.150
4	70	1.153	-	58*	1.150
-	58	1.153	5	86*	1.200
6	24	1.188	6	39*	1.300
7	46	1.235	7	72*	1.350
8	39	1.318	-	60*	1.350
9	86	1.341	-	46*	1.350
10	32	1.365	10	32*	1.400
11	27	1.400	11	42*	1.450
12	30	1.412	-	9*	1.450
13	35	1.447	-	7*	1.450
14	9	1.459	14	35*	1.500
15	64	1.541	15	63	1.600
16	52	1.541	-	51	1.600
17	7	1.588	-	27*	1.600
18	42	1.600	18	30*	1.650
19	11	1.694	19	62	1.700
20	77	1.729	-	50	1.700
21	89	1.812	21	25	1.800
22	75	1.894	22	77*	1.850
23	47	1.929	-	15	1.850
24	79	1.976	-	11*	1.850
25	78	1.976	25	43	1.900

*Those items marked with an asterisk are included on the top twenty-five items of the teacher ranking.

often would aides do this activity." The correlation was not quite as high as on the other scale (r=.96); however, with r=.79 it is still significant beyond the .01 level. An r^2=.62 indicates that 62 per cent of the variance between groups is accounted for by the rating of one group upon another. There is strong agreement between aides and teachers in terms of the kinds of activities in which an aide should be engaged.

Comparison between the Two Scales

A final comparison was made on the highest twenty-five ranked items on both the "helpfulness" scale and the "likely to do" scale. The purpose of this type of comparison is to determine whether teachers will allow aides to carry on the activities which they have identified as "most helpful" to the school and the pupils. If their perceptions are congruent, there will be no significant difference in the mean scores between the first (or left side) scale and the second (or right side) scale. If means on the right are significantly lower, this will indicate teachers do not wish to allow aides to carry out the activities which the teachers see as most important. The same comparison may be made for the responses of the aides.

Table IX presents the rank, the activity number, and the item mean rating on the scale, "How helpful would it be to the school and pupils if an aide carried on this activity," and the item mean rating on the scale, "How often would an aide be likely to carry out this activity," for the twenty-five highest ranked items as ranked by teachers.

Teachers exhibited a significant difference in the perception of the helpfulness an activity would be to the school, and their perception

TABLE IX

A COMPARISON OF THE PERCEPTION OF THE TEACHERS ON THE SCALES "HOW HELPFUL TO THE PUPILS AND SCHOOL DO YOU THINK IT WOULD BE IF AN AIDE DID THIS?" AND "HOW OFTEN DO YOU BELIEVE AN AIDE IS LIKELY TO DO THIS ON THE JOB?"

RANK	ACTIVITY NO.	ITEM MEAN ON "HELPFULNESS" SCALE	ITEM MEAN ON "ACTIVITY IS DONE" SCALE
1	4	3.84	3.22
2	34	3.82	3.55
3	5	3.81	3.34
4	14	3.73	3.22
-	23	3.73	3.39
6	3	3.69	3.00
7	29	3.66	3.22
8	28	3.62	3.25
9	40	3.54	3.24
10	54	3.48	3.05
-	66	3.48	3.05
12	56	3.46	3.14
-	68	3.46	3.14
14	33	3.45	2.92
15	1	3.42	2.61
-	13	3.42	2.99
-	37	3.42	3.21
18	21	3.40	2.75
19	19	3.39	2.91
20	91	3.38	3.09
21	59	3.37	3.07
-	71	3.37	3.07
-	94	3.37	2.68
24	83	3.34	3.01
25	49	3.31	3.01
-	61	3.31	3.01
-	92	3.31	2.87
		94.58	83.01
		$\overline{X} = 3.503$	$\overline{X} = 3.074$

$t = 24.68$ significant at .01 level

of whether an aide ought be allowed to carry out that particular activity. This is not a particularly peculiar finding. It substantiates what aides often report verbally to the members of the evaluation team; namely that they feel they have greater potential for service than they are allowed to use.

The final table summarizes similar data reported by the aides.

The aides exhibited a statistically different perception on their ratings of the two scales. Means tended to be somewhat higher for the aides, but not markedly so. This is an interesting finding, for it indicates that aides view their ability to carry out activities which would be helpful to the school in relatively the same manner as do the teachers, which is not what this investigator would have predicted.

Summary and Conclusions

The purpose of this section was to determine the congruity of perception between aides and teachers on a previously tested inventory of items related to the activities of aides. The Coefficient of Correlation of the means was used to determine the degree of agreement between the groups.

The first hypothesis which stated that there would be a statistically significant positive correlation between aides and teachers when judging how helpful each of the activities in the instrument would be to the school and pupils was accepted (r=.96).

The second hypothesis which stated that there would be a statistically significant positive correlation between aides and teachers when judging how often an aide is likely to do a specific task was accepted (r=.79).

TABLE X

A COMPARISON OF THE PERCEPTION OF THE AIDES ON THE SCALES "HOW HELPFUL TO THE PUPILS AND SCHOOL DO YOU THINK IT WOULD BE IF AN AIDE DID THIS?" AND "HOW OFTEN DO YOU BELIEVE AN AIDE IS LIKELY TO DO THIS ON THE JOB?"

RANK	ACTIVITY NO	ITEM MEAN ON "HELPFULNESS" SCALE	ITEM MEAN ON "ACTIVITY IS DONE" SCALE
1	14	3.90	3.35
-	23	3.90	3.60
3	29	3.80	3.65
-	34	3.80	3.80
5	40	3.75	3.80
-	4	3.75	3.35
7	3	3.70	3.10
-	5	3.70	3.45
-	37	3.70	3.50
-	59	3.70	3.05
-	71	3.70	3.05
-	73	3.70	2.95
-	83	3.70	2.90
-	95	3.70	3.00
15	19	3.65	3.10
-	28	3.65	3.70
17	54	3.60	2.60
-	56	3.60	3.00
-	66	3.60	2.60
-	68	3.60	3.00
-	94	3.60	3.35
22	45	3.55	3.00
-	91	3.55	3.25
24	33	3.50	3.10
-	13	3.50	2.80
		91.90	80.05
		$\overline{X} = 3.676$	$\overline{X} = 3.202$

t = 10.264, significant at .01.

Each of the activities had been assigned a descriptive category by the original creators of the inventory. Using these categories, the twenty-five highest items were divided by their appropriate descriptive term and the frequency of each category was labeled. The activities categorized as "cognitive" and "affective" were ranked most frequently in the top twenty-five items. This was true for the Grand Forks aides as well as a national sample of teachers. The Grand Forks teachers were compared to both of the above groups. There was a high degree of agreement between the activities selected as helpful to the school and pupils by the Grand Forks teachers when compared to the aides and when compared to the national sample. One could generalize that teachers in the Grand Forks system perceive aides in the same way as do the aides who were with them and as do a sample of teachers from fifteen other projects in the United States.

The third hypothesis that teachers would exhibit no significant difference between their mean ratings for the top twenty-five ranked items on the scale of the helpfulness to the school and pupils if an aide carries out a particular activity, and the scale of how often an aide is likely to carry out a particular task, was not accepted. There was a significant difference between the scales at the .01 level of significance.

The final hypothesis that aides would exhibit no significant difference between their mean ratings for the top twenty-five ranked items on the scale of the helpfulness to the school and pupils if an aide carries out a particular activity and the scale of how often an aide is likely to carry out a particular task was not accepted. There was a significant difference between the scales at the .01 level.

In conclusion, one may state that there appears to be a high degree of congruency in the perceptions of both the Grand Forks teachers and their aides on the activities which the aides should do in their jobs. This is, of course, an excellent finding, as it undoubtedly has implications for the morale and job satisfaction of both groups and indicates a low level of conflict between the participants.

ACTIVITY SHEET

HOW HELPFUL TO THE PUPILS AND THE SCHOOL DO YOU THINK IT WOULD BE IF AN AIDE DID THIS?				(Please CHECK each item on both left and right hand sides before checking next item)	HOW OFTEN DO YOU BELIEVE AN AIDE IS LIKELY TO DO THIS ON THE JOB?			
Very Helpful	Somewhat Helpful	Somewhat Harmful	Very Harmful	ACTIVITY	Most of the Time	Often	Seldom	Never
				1. Playing games with pupils (such as rhyming games, guessing games and finger games).				
				2. Giving most attention to the pupils whom you know best. *				
				3. Interesting a restless pupil in some of the available activities.				
				4. Preparing audio-visual materials such as charts at the request of the teacher.				
				5. Typing.				
				6. Helping pupils learn how to settle arguments without fighting.				
				7. Making exceptions to rules where you believe them to be wrong. *				
				8. Stopping pupils from fighting.				
				9. Comforting and supporting a pupil who feels he has been treated unfairly by the teacher.				
				10. Listening to pupils talk about themselves.				
				11. Keeping pupils who talk slowly and hesitantly from wasting the class's time.				
				12. Talking with pupils about what they are doing when they are playing.				

* NOTE: "the aide" should be substituted for "you."

				13. Listening to a pupil tell a story.				
				14. Operating equipment such as movie projector, slide projector, tape recorder.				
				15. Checking daily on the health of pupils.				
				16. Putting away pupils' toys and materials.				
				17. Putting on and taking off all outdoor clothing of young children for them.				
				18. Giving first aid to a pupil.				
				19. Helping teachers take care of pupils in assembly.				
				20. Washing a pupil's mouth out with soap when he swears.				
				21. Talking quietly with a pupil who is upset.				
				22. Guarding doors of school.				
				23. Taking charge of a small group which is working on a special project while the teacher works with another group.				
				24. Finishing a slow pupil's work for him.				
				25. Taking a small group of pupils on a walk in the neighborhood.				
				26. Taking pupils to and from various places in school (such as lunchroom, nurse's office, principal's office, bathroom.				
				27. Preparing the questions on tests for the pupils to answer.				
				28. Preparing bulletin board displays.				

				29. Filing and cataloging materials.				
				30. Deciding what pupils need to do in classroom.				
				31. Acting out stories with pupils.				
				32. Planning the homework assignments for pupils.				
				33. Reading and telling stories to pupils.				
				34. Running a duplicating machine.				
				35. Deciding which pupils will need to work together in a reading group.				
				36. Explaining school rules to pupils.				
				37. Keeping records, such as attendance and health records.				
				38. Taking groups of children on a trip.				
				39. Deciding what trips pupils will take during the term.				
				40. Taking charge of pupils at various occasions, such as: during lunch period, in hallways and on bus.				
				41. Helping a teacher plan trips with pupils.				
				42. Deciding what a pupil should study.				
				43. Helping pupils learn how to use the bathroom.				
				44. Helping pupils learn proper use of tools and equipment.				
				45. Helping a pupil use a teaching machine.				

				46. Telling a misbehaving pupil what you really think of him. *				
				47. Seeing that a pupil eats all of his lunch.				
				48. Telling a pupil what happened when he was absent.				
				49. Helping pupils move from one activity to another in the classroom.				
				50. Checking playground equipment for safety.				
				51. Taking home pupils who are sick.				
				52. Teaching pupils a subject (such as history, chemistry, arithmetic or reading).				
				53. Singing with a group of pupils.				
				54. Helping pupils get ready to put on an assembly program (such as making costumes, making scenery, listening to pupils rehearse).				
				55. Taking notes of meetings when asked.				
				56. Helping young children learn to use crayons, scissors, paste, and paint.				
				57. Attending meetings with teachers.				
				58. Spanking pupils for misbehavior.				
				59. Showing pupils how to clean up and put away materials.				
				60. Taking charge of the class when the teacher is sick for a considerable period of time, perhaps several days or a week				

* NOTE: "the aide" should be substituted for "you."

				61. Making arrangements for the use of equipment.				
				62. Helping pupil understand teacher's directions.				
				63. Checking supplies.				
				64. "Covering up" for children who cheat.				
				65. Playing a musical instrument for the pupils.				
				66. Collecting milk money, money for lunch tickets or other needs.				
				67. Helping pupils improve special skills (such as in gym, sewing, or dancing).				
				68. Helping pupils improve their manners.				
				69. Weighing and measuring a pupil.				
				70. Lending a pupil money when asked.				
				71. Doing errands and carrying messages.				
				72. Passing out and collecting pupils' materials.				
				73. Encouraging pupils to make the most of themselves.				
				74. Sorting mail.				
				75. Helping teacher maintain a completely quiet classroom.				
				76. Helping a pupil learn to do something new and perhaps a little more difficult than he thinks he can do.				
				77. Helping prepare and serve food.				
				78. Feeding classroom pets.				

				79. Taking charge of a class while the teacher has a rest period.				
				80. Writing down what a pupil is doing.				
				81. Keeping a record of how a group of pupils work or play together.				
				82. Watering plants.				
				83. Giving a pupil a chance to show he can do something well.				
				84. Encouraging pupils to help each other.				
				85. Getting the classroom ready for the next day.				
				86. Deciding who should stay after school.				
				87. Helping pupils learn to play together (such as teaching them to take turns, share toys and other materials).				
				88. Organizing outdoor activities for class.				
				89. Watching pupils from back of classroom to prevent unruly behavior.				
				90. Checking on temperature, fresh air and lighting in the classroom.				
				91. Helping a pupil look up information in a book.				
				92. Helping pupils pick out books in the library.				
				93. Helping a teacher make arrangements for a trip.				
				94. Taking responsibility for class for a few minutes when teacher is called away.				
				95. Giving the teacher information about a pupil which will help the teacher in working with him.				

SECTION D

THE TEACHER AIDE ATTITUDE INVENTORY STUDY

Objectives

The objectives of this present study concerning the Teacher Aide Attitude Inventory (TAAI) included the bringing to a final form for the instrument. It has gone through several stages in its formation. At one time, as many as 60 different items were used in the same testing. This year's effort was directed toward culminating the item selection on the inventory. Future efforts could allow for the use of the TAAI by other investigations.

Development of the Instrument

Initially, a 44 team inventory was used; the second version (constructed in 1969) had 60 items. The version used in the present study included 43 or the 1969 items, plus 2 more items written in the past year. In the first two versions, the instrument was used almost exclusively with teachers in the Grand Forks public schools. The present version was administered to students at UND. Two different types of students were identified: those who were attending the regular session classes, and thus likely to be full-time students; and those students who were enrolled in selected extension courses offered by the University. All students involved were students taking at least one course in the education department at UND.

Data Collection Procedures

The third version of the TAAI (45 items) was administered to students enrolled in selected graduate courses in the education department, both regular session and extension classes. A total of 125 students participated in this present study. The TAAI was administered to these several classes in March, 1970. The data presented in this section are based upon those administrations of the TAAI.

Presentation of the Data

Each item on the revised TAAI is included, together with the responses to the Likert scaled items. For convenience, in this section, the following values will remain constant:

SA is coded as equal to 5
A is coded as equal to 4
U is coded as equal to 3
D is coded as equal to 2
SD is coded as equal to 1
SA means strongly agree
A means agree
U means undecided
D means disagree
SD means strongly disagree

For example, for item 1, $\overline{X} = 3.688$, and $s = 1.066$. This means that the group can be characterized as being close to A (agree) on this item. The items, the numbers responding to each referent, and the mean and standard deviation and tally for each item follow.

TABLE I

MEAN SCORE AND STANDARD DEVIATION OF THE RESPONSES IN THE 1970 ADMINISTRATION OF THE TAAI

SA	A	U	D	SD		
25	61	20	14	5	$\bar{X}$ = 3.688, s = 1.066	1. The position of teacher aide should be looked upon as a profession in itself; many people can find satisfaction and self fulfillment in such a position.
28	56	5	22	14	$\bar{X}$ = 3.504, s = 1.33	2. The purpose of the teacher aide is to lighten the load of the classroom teacher.
56	65	3	1	0	$\bar{X}$ = 4.408, s = .583	3. The success of aides depends on the creativeness and willingness of the teacher to use them.
26	49	18	25	7	$\bar{X}$ = 3.496, s = 1.189	4. Aides can serve as a link between the teacher and her on his pupils.
5	29	23	57	11	$\bar{X}$ = 2.680, s = 1.147	5. Availability of teacher aides means that the school program will be forced to change.
8	33	22	48	14	$\bar{X}$ = 2.784, s = 1.147	6. The teacher aide is in reality an apprentice teacher who, with appropriate further training, might become a full-fledged professional.
43	66	7	7	2	$\bar{X}$ = 4.128, s = .87	7. While clerical help is useful for typing and related activities, it would also be worthwhile to have non-professional or semi-professional help with many other duties, i.e., setting up experimental apparatus in a science class.
45	48	10	17	5	$\bar{X}$ = 3.888, s = 1.159	8. Teacher aides must understand that the teacher has complete authority in the classroom.
4	11	12	59	39	$\bar{X}$ = 2.056, s = 1.026	9. The act of grading teacher made objective tests is a confidential act, and as such cannot be given to a teacher aide.
35	80	4	5	1	$\bar{X}$ = 4.144, s = .726	10. A high degree of education, i.e., a bachelor does not insure that an aide will be successful.

2

SA	A	U	D	SD		
18	30	15	53	9	$\bar{X}$ = 2.960, s = 1.240	11. It is demeaning to the dignity of a teacher to do such tasks as patrolling the lunchroom during lunch hour.
28	62	17	16	2	$\bar{X}$ = 3.784, s = .989	12. While it is financially a simple solution to require teachers to collect tickets at athletic events, it is more professional to have this task performed by some other individual.
78	37	15	42	13	$\bar{X}$ = 3.040, s = 1.279	13. The teacher cannot expect the teacher aide to conduct actual classroom activities, e.g., explain a math problem to the class, etc.
69	53	1	2	0	$\bar{X}$ = 4.512, s = .604	14. Because of the assistance of aides, the teacher has more time to concentrate on duties directly associated with better teaching.
5	39	65	14	2	$\bar{X}$ = 3.248, s = .769	15. Our teacher aides have greatly improved the understanding between school and community.
1	39	18	49	18	$\bar{X}$ = 2.648, s = 1.094	16. The addition of teacher aides would enable the class size to increase substantially, e.g., from 30 to 45 students.
25	82	10	6	2	$\bar{X}$ = 3.976, s = .788	17. The aide can give assistance to children who otherwise would have to wait for the teacher to get to them.
12	81	19	12	1	$\bar{X}$ = 3.728, s = .797	18. The teacher aides should be able to perform any function for which past training or experience qualifies them.
7	64	40	14	0	$\bar{X}$ = 3.512, s = .768	19. Most children do not feel threatened by an aide as they do not see the aide in the role of evaluator.
1	7	17	62	38	$\bar{X}$ = 1.976, s = .893	20. Tasks such as taking attendance provide the teacher a moment's relaxation and, as such, should continue to be done by the teacher.
64	52	4	2	3	$\bar{X}$ = 4.376, s = .830	21. The purpose of the teacher aide is to free the teacher from the non-instructional tasks so that the teacher can more effectively serve the instructional needs of the student.
3	35	32	45	10	$\bar{X}$ = 2.808, s = 1.014	22. The teacher aide should be looked upon as a person who will probably seek to attain full professional status by continued collegiate study.

SA A U D SD
23 66 12 20 4
$\overline{X}$ = 3.672, s = 1.053

23. The teacher aide should at times relieve the teacher of certain responsibilities

SA A U D SD
1 13 31 64 16
$\overline{X}$ = 2.352, s = .868

24. The physical presence of the teacher aide in the classroom should be minimized.

SA A U D SD
1 1 6 50 67
$\overline{X}$ = 1.552, s = .701

25. While clerical help is needed for the superintendent, principals, and other advisory professionals, there seems to be little reason to go to such an expense for the classroom teacher.

SA A U D SD
0 3 6 51 65
$\overline{X}$ = 1.576, s = .699

26. The average classroom teacher is not so busy that he (she) needs assistance with the clerical tasks.

SA A U D SD
48 65 6 5 1
$\overline{X}$ = 4.232, s = .784

27. An aide can be effective only to the degree the teacher allows her to be.

SA A U D SD
1 8 10 61 45
$\overline{X}$ = 1.882, s = .870

28. Teachers should make arrangements for their own typing; it is not feasible for the school district to supply typists for the classroom teacher's use.

SA A U D SD
11 68 31 13 2
$\overline{X}$ = 3.576, s = .882

29. The employment of teacher aides enhances the position of the teacher.

SA A U D SD
33 80 6 5 1
$\overline{X}$ = 4.112, s = .732

30. Effective aides are those who relate well with their co-workers and have empathy for children.

SA A U D SD
21 80 14 9 1
$\overline{X}$ = 3.888, s = .795

31. It would be permissible to have a teacher aide give help to individual students on arithmetic problems.

SA A U D SD
5 22 30 54 14
X = 2.608, s = 1.054

32. The best teacher aide is the student teacher as he (she) can take over actual teaching responsibilities.

SA A U D SD
18 70 30 7 0
$\overline{X}$ = 3.792, s = .755

33. The greatest limitation upon the use of aides is the lack of creativity on the part of teachers in using them.

SA A D U D SD
4 56 32 32 1
$\overline{X}$ = 3.240, s = .906

34. The presence of another adult in the classroom should ease the discipline problems that may exist in the classroom.

SA	A	U	D	SD	Statistics	No.	Statement
9	84	25	7	0	$\bar{X} = 3.760$, $s = .665$	35.	Some teachers never get past the point of assigning aides clerical work.
11	63	32	16	3	$\bar{X} = 3.504$, $s = .912$	36.	The use of teacher aides is an excellent stepping stone to team teaching and non-grading or milti-age grouping.
17	92	10	6	0	$\bar{X} = 3.960$, $s = .604$	37.	Aides must have activities, commensurate with their abilities, which provide opportunities to interact with pupils.
9	54	35	25	2	$\bar{X} = 3.344$, $s = .934$	38.	Too much clerical work bores the aides and they lose enthusiasm for their work.
6	44	22	48	5	$\bar{X} = 2.984$, $s = 1.047$	39.	Aides should be kept as busy as possible.
1	13	14	81	16	$\bar{X} = 2.216$, $s = .829$	40.	Teacher aides should be limited to non-instructional activities such as preparing bulletin boards.
0	6	22	86	11	$\bar{X} = 2.184$, $s = .652$	41.	Aides should assist with instructional activities such as class plays only when the activities are extracurricular.
1	19	35	48	22	$\bar{X} = 2.432$, $s = .978$	42.	Aides can do an effective job of grading essay papers.
18	76	11	17	3	$\bar{X} = 3.712$, $s = .957$	43.	An aide can work effectively with one or a few students who is/are having a difficulty, thus freeing the teacher for the rest of the group.

ADDITIONAL QUESTIONS

SA	A	U	D	SD	Statistics	No.	Statement
60	61	4	0	0	$\bar{X} = 4.448$, $s = .560$	1.	It is worthwhile to the teacher to have assistance from a teacher aide.
57	62	5	1	0	$\bar{X} = 4.400$, $s = .609$	2.	It is worthwhile for the student that the teacher have assistance from a teacher aide.

Yes 40 No 85 — 3. Have you ever used the services of a teacher aide?

______ 4. How many years of teaching experience do you have?

Male 88 Female 37 5. Check the appropriate box.

6. How important do you think it is that a teacher in the public schools have access to the services of a teacher's aide?

Not at all Important   Somewhat Important   Very Important

Item Selection-Discriminant Validity

The methodology suggested by Edwards (Techniques of Attitude Scale Construction, Appleton-Century-Crofts, p. 152) was used with the 45 items of the 1970 revision of the TAAI for discriminant validity. The top 25% on the total TAAI was compared to the bottom 25%, where top and bottom are defined in terms of total on the TAAI. In the following table included is the "t" value for each item. In each of the groups, 31 respondents were included. Wherever a negative "t" value occurs, that item had a negative discriminant validity, and that item was scheduled to be dropped in the refined inventory.

TABLE II

't' SCORE VALUE BY ITEM FOR 1970 ADMINISTRATION OF TAAI

Item	't'	Item	't'	Item	't'
1	4.630	2	1.736	3	3.178
4	4.082	5	1.102	6	1.561
7	4.489	8	1.288	9	3.948
10	1.930	11	2.286	12	3.767

Item	't'	Item	't'	Item	't'
13	2.067	14	1.445	15	2.497
16	.109	17	2.707	18	1.205
19	2.509	20	5.477	21	.138
22	1.782	23	-.588	24	3.518
25	4.484	26	3.249	27	3.833
28	3.038	29	4.898	30	3.776
31	4.018	32	1.364	33	4.334
34	1.163	35	2.531	36	-1.775
37	2.163	38	1.737	39	-1.457
40	5.215	41	4.293	42	.388
43	3.061	44	5.852	45	5.735

In the revised (1970 version) TAAI, the scoring was done in relation to a positive attitude toward teacher aides. In general, SA = 5, A = 4, U = 3, D = 2, SD = 1. On several items, the scoring is reversed; this is essentially saying that a positive response to those items is related toward a less positive (or negative) attitude toward teacher aides. In the reversals, the scoring was SA = 1, A = 2, U = 3, D = 4, SD = 5. Reversal took place on the following items: 2, 6, 8, 9, 13, 16, 20, 22, 23, 24, 25, 26, 28, 32, 36, 40, and 41.

The preceding tables would indicate that, after reversing the appropriate items, the respondents have in general a more favorable (as opposed to less favorable) attitude toward teacher aides. The item that deviates farthest from this norm is item 8. Of some significance is that, as will be seen later, this item is scheduled for elimination. Apparently there is some concern for the over-influence of the teacher aide in the classroom.

As was done in previous evaluation, a cut-off score on the 't' test was used for further refinement of the TAAI. In the 1969 study, a t = 1.000 was used as the cut-off score. It was felt that a much more stringent cut-off was necessary for the present study. A cut-off of t = 2.000 was used. Thus, for each item, a 95 per cent confidence level statement can be made concerning the discriminating value of the item. It should be remembered that all but 2 of the items (newly written for this administration of the test) had already survived one refinement; the intention was to include only those items in a final version that had demonstrated discriminant validity. Thus, the following items would be scheduled for elimination: 2, 5, 6, 8, 10, 14, 16, 18, 21, 22, 23, 32, 34, 36, 38, 39, and 42.

However, 4 of these items will be "resurrected" from an elimination. Item 2 will be continued because of its contribution in the regression, and items 6, 22, and 32 will be continued because of their factor loadings in the factor analysis. A residual of including these items is that they all have the reversed scoring system. Thus the final 32 item inventory will have a more reasonable distribution of positively and negatively scored items.

Multiple Regression Analysis

An alternative procedure to item analysis which has yet to receive sufficient general usage is the multiple regression technique, and in particular, the stepwise multiple linear regression technique. An advantage of this method is that it allows each item to contribute maximally to a criterion, rather than using only test totals or sub-totals for the prediction. There are at least two drawbacks to this methodology. The biggest drawback is also apparent in any other type of predictive system, and that is the lack of a stable and meaningful criterion. This had been particularly true in regard to attitude toward teacher aides. An attitude toward teacher aides is simply a construct that has no easily defined behavioral manifestations. An earlier attempt at predicting teacher aide usage was largely ineffective. The most usable predictor was the binary variable of sex. This may be due to the interaction of the aides (most aides were females) with the teachers, which was not in any way controlled for this variable. Further, does aide usage mean anything in terms of a favorable attitude towards aides? Also a teacher may be inclined to misuse aides by having them do tasks continually. A second drawback is involved in the stepwise procedure itself. If anything, the stepwise procedure tends to become overused when the beginning researcher becomes acquainted with the program. The stepwise procedure is useful, but undue reliance upon it is not constructive.

In the present analysis, one criterion that presented itself was the dichotomous variable of whether or not the respondent had ever used a teacher aide. Admittedly, the criterion can be criticized. On the other hand, one can at least try to use it to see what attitudes are different among those who have used aides and of the attitude of those who had not used aides.

While it is not meaningful to reproduce all the stages in the stepwise process (here, a backward stepwise regression was employed), the overall results are of some interest. For the 45 predictor system (i.e., all 45 items are considered as independent predictor variables), R = .60908, and R^2 = .37098 so that approximately 37 per cent of the criterion variance can be explained by using the set of items as predictors. By using the stepwise procedure, 28 items allow an R = .60051, with R^2 = .36061 which is indicative that at least 17 variables can be dropped before more than one per cent of the variance accountability is lost. An R = .55315 exists with only 17 variables; 11 variables afford an R = .50328. Focus, however, will be made on the 5 last remaining variables, the first stage at which all remaining variables have a significant partial regression weight ($p < .05$).

TABLE III

STAGE 41 IN STEPWISE PROCESS WITH CRITERION OF WHETHER OR NOT RESPONDENT HAD USED A TEACHER AIDE

Item Number	Correlation with Criterion	Computed t value
2	-.14	-2.02
7	-.14	-2.78
27	.19	2.67
36	-.18	-2.18
41	.16	2.60

R = .41766, R^2 = .17444

On the basis of the stepwise process, item 2 will also be included in the final version of the TAAI. Because item 36 has a negative discrimination index, it is not included.

Factor Analysis of the TAAI

The factor analytic method used in the present study was the principal components solution with a varimax rotation, using unity elements in the main diagonal with the 45 items of the 1970 version of the TAAI. Fifteen factors were extracted using this method. Actually, since a decision index of the eigenvalue being greater than one for the cutting off of further "factoring," it should seem obvious that this process used is an approximation of a principal axis solution. While 15 factors were extracted using this method, it should be rather obvious that interpreting 15 factors would be a largely meaningless gesture. The first 15 factors account for 66.989 per cent of the criterion variance (i.e., cumulative percentage of eigenvalues for the first 15 variables). For purposes of simplicity, only the first three factors are reported. See Table IV.

TABLE IV

PRINCIPAL COMPONENTS SOLUTION WITH VARIMAX
ROTATION OF THE TAAI

	Factor Loadings		
Item	Factor I	Factor II	Factor III
1	-.08	-.21	-.09
2	-.23	.05	-.11
3	-.07	.03	-.06
4	.33	.02	-.22
5	-.03	.03	.06
6	-.73	-.13	.13

TABLE IV - continued

Item	Factor Loadings Factor I	 Factor II	 Factor III
7	-.04	-.15	.17
8	-.05	-.01	-.15
9	-.06	.02	-.15
10	.13	-.02	-.22
11	.02	-.29	.09
12	-.10	-.07	-.29
13	.28	.00	-.45
14	.09	-.22	.17
15	-.17	.08	-.04
16	-.05	.13	.11
17	.26	-05	-.33
18	.12	.13	.08
19	.00	-.11	-.04
20	-.24	-.45	.08
21	.05	-.09	.34
22	-.69	.03	-.11
23	-.02	.00	.07
24	.13	-.19	-.53
25	-.15	-.79	-.07
26	-.02	-.84	-.03
27	-.12	-.12	.01
28	-.29	-.46	-.26

TABLE IV - continued

	Factor Loadings		
Item	Factor I	Factor II	Factor III
29	.08	.00	.01
30	-.04	-.01	-.27
31	.16	-.07	-.61
32	-.67	-.17	.14
33	-.06	-.09	-.13
34	.28	.22	.11
35	-.11	-.23	-.18
36	-.05	.06	.12
37	.18	.13	-.19
38	.26	-.07	.08
39	.07	.07	-.03
40	.05	-.02	-.76
41	-.05	.01	-.72
42	.00	.24	-.14
43	.19	-.09	-.33
44	-.01	-.20	-.10
45	.06	-.14	-.11

The items that load most heavily on Factor I are numbers 4, 6, 22, and 32. This factor has been tentatively called "The Teacher Aide as a Professional." Those items that load most heavily on Factor II are numbers 20, 25, 26, and 28. This factor has tentatively been called "Clerical and Task Orientation." Factor III has heavy loadings on items 13, 17, 21, 24, 40, 41, and 43 and has tentatively been named "Teacher Aides in Professional Activities."

TABLE V

FINAL VERSION OF THE TAAI
THE TEACHER AIDE ATTITUDE INVENTORY

The following items ask your attitude toward the position of teacher aide. On the left hand side of the page is the following scale:

SA A U D SD where: SA means strongly agree
A means agree
U means undecided
D means disagree
SD means strongly disagree

Please respond to each item by circling the response which comes closest to your own position: i.e., if you strongly agree with an item, circle SA.

SA A U D SD 1. The position of teacher aide should be looked upon as a profession in itself; many people can find satisfaction and self fulfillment in such a position.

SA A U D SD 2. The purpose of the teacher aide is to lighten the load of the classroom teacher.

SA A U D SD 3. The success of aides depends on the creativeness and willingness of the teacher to use them.

SA A U D SD 4. Availability of teacher aides means that the school program will be forced to change.

SA A U D SD 5. The teacher aide is in reality an apprentice teacher who, with appropriate further training, might become a full fledged professional.

SA A U D SD 6. While clerical help is useful for typing and related activities, it would also be worthwhile to have non-professional or semi-professional help with many other duties, i.e., setting up experimental apparatus in a science class.

SA A U D SD 7. The act of grading teacher made objective tests is a confidential act, and as such cannot be given to a teacher aide.

SA A U D SD 8. It is demeaning to the dignity of a teacher to do such tasks as patrolling the lunchroom during lunch hour.

SA A U D SD 9. While it is financially a simple solution to require teachers to collect tickets at athletic events, it is more professional to have this task performed by some other individual.

SA A U D SD 10. The teacher cannot expect the teacher aide to conduct actual classroom activities, e.g., explain a math problem to the class, etc.

SA A U D SD 11. Our teacher aides have greatly improved the understanding between school and community.

SA A U D SD 12. The aide can give assistance to children who otherwise would have to wait for the teacher to get to them.

SA A U D SD 13. Most children do not feel threatened by an aide as they do not see the aide in the role of evaluator.

SA A U D SD 14. Tasks such as taking attendance provide the teacher a moment's relaxation and, as such, should continue to be done by the teacher.

SA A U D SD 15. The teacher aide should be looked upon as a person who will probably seek to attain full professional status by continued collegiate study.

SA A U D SD 16. The physical presence of the teacher aide in the classroom should be minimized.

SA A U D SD 17. While clerical help is needed for the superintendent, principals and other advisory professionals, there seems to be little reason to go to such an expense for the classroom teacher.

SA A U D SD 18. The average classroom teacher is not so busy that he (she) needs assistance with the clerical tasks.

SA A U D SD 19. An aide can be effective only to the degree the teacher allows her to be.

SA A U D SD 20. Teachers should make arrangements for their own typing; it is not feasible for the school district to supply typists for the classroom teacher's use.

SA A U D SD 21. The employment of teacher aides enhances the position of the teacher.

SA A U D SD 22. Effective aides are those who relate well with their co-workers and have empathy for children.

SA A U D SD 23. It would be permissible to have a teacher aide give help to individual students on arithmetic problems.

SA A U D SD 24. The best teacher aide is the student teacher as he (she) can take over actual teaching responsibilities.

SA A U D SD 25. The greatest limitation upon the use of aides is the lack of creativity on the part of teachers in using them.

SA A U D SD 26. Some teachers never get past the point of assigning aides clerical work.

SA A U D SD 27. Aides must have activities, commensurate with their abilities, which provide opportunities to interact with pupils.

SA A U D SD 28. Teacher aides should be limited to non-instructional activities such as preparing bulletin boards.

SA A U D SD 29. Aides should assist with instructional activities such as preparing bulletin boards.

SA A U D SD 30. An aide can work effectively with one or a few students who is/are having a difficulty, thus freeing the teacher for the rest of the group.

SA A U D SD 31. It is worthwhile to the teacher to have assistance from a teacher aide.

SA A U D SD 32. It is worthwhile for the student that the teacher have assistance from a teacher aide.

Further Validation of the 1970 Revision of the TAAI

Once the revised (1970) version of the TAAI was formulated, steps were taken to make the report usable for other workers (May, 1970). Included in this validation was a construction of percentiles for the score distribution of the final instrument. This distribution is given in Table VI. The mean for the TAAI is 103.95 and the standard deviation is 10.19.

TABLE VI

SELECT PERCENTILE VALUES FOR TOTAL SCORES OF THE TAAI

Percentile	TAAI Score
99	127
95	117
90	115
85	113
80	112
75	111
70	110
65	108
60	107
55	106
50	105
45	104
40	103
35	101
30	100
25	98
20	97
15	94
10	92
5	86
1	65

In a further attempt to pinpoint aide usage as it relates to the TAAI, the thirty-two item 1970 version of the TAAI was administered to seventy-four teachers at three Grand Forks Schools (South Junior High School, Eielson School and Twining School). Also, aide usage was determined in six categories for one week in each month of the school year. The six categories of aide usage were:

1. Clerical out of class activities
2. Audio-visual materials and equipment
3. Clerical in class activities
4. Supervision
5. Instruction
6. Other

As one measure of validity, a multiple linear regression was completed with the six previously listed variables with the TAAI score serving as the criterion. Results of that analysis are reported in Table VII.

TABLE VII

SIX MEASURES OF USAGE OF TEACHER AIDES WITH TAAI AS CRITERION

(N = 74)

Variable	Mean	Correlation with TAAI
Clerical out of class activities	19.7	.119
Audio-Visual materials and equipment	.9	.014
Clerical in class activities	1.0	.053
Supervision	7.2	.040
Instruction	6.0	.161
Other	1.2	.230*

Multiple correlation with TAAI. R = .260.

* Significant at .05 level.

The two portions of aide usage that seem most closely related to the TAAI are Other (r = .230, significant at the .05 level) and Instruction (r = .161). All six correlation coefficients are positive, and are hence in the expected direction.

The next two tables investigate subtotals in various combinations. Table VIII uses two combinations, clerical (1) Clerical out of class activities,

(2) Audio-visual materials and equipment, (3) Clerical in class activities, (4) Supervision, and (5) Instruction. The last category, (5) Other, was not included in the analysis in Table VIII.

TABLE VIII

Variable	Mean	Correlation with TAAI
Clerical (1, 2, 3)	21.6	.113
Instructional (4, 5)	13.2	.088

Multiple correlation with TAAI R = .139. The final correlation to be run was between total usage and the TAAI. This is given in Table IX.

TABLE IX

TOTAL USAGE AND THE TAAI

Variable	Mean	Correlation with TAAI
Total	35.9	.146

Possible Uses of the TAAI

The test constructers feel that the present form (32 item) should be made available to, and usable by, any school district that wishes to consider an implementation of teacher aides. A point of particular use would be a school district contemplating making use of teacher aides on an experimental basis. If they wish to pick out certain schools within the system, or certain portions of a given school, the TAAI should be useful to identify those aides who will have a positive attitude toward the use of teacher aides, together with a more probable usage of aides.

As is true of other paper and pencil type tests, some degree of caution is necessary with using and interpreting the TAAI. If the test is administered on the basis that the school which receives the highest mean score will receive aides, with no other consideration being made, then teachers will be oriented toward trying to present a more favorable attitude then is actually present.

It should also be noted that the validity coefficients are not particularly high. This is due to several causes. Some teachers may be more likely in need of teacher aides simply on the basis of the subject matter that they teach. Or alternatively, a person may be favorably disposed towards using teacher aides, but the teacher aides available to them do not hold the competencies necessary. If the teacher is willing to use a teacher aide in instructional program, he may not be too effective in that area if the aide is more clerically oriented.

Summary

The present section has been concerned with the refinements of an attitude instrument constructed specifically for the present project. As far as test development is concerned, the instrument, the TAAI, should now be available for use by other researchers. The final version contains 32 items, of which 13 have a reversed scoring.

For the purposes of development of the TAAI in regard to the Project, Implementation of the Teacher and His Staff concept, this phase of instrument construction of the TAAI can be considered to be complete.

SECTION E

A SURVEY OF PARENT OPINIONS ABOUT THE USE OF TEACHER AIDES

A telephone survey was utilized in an attempt to determine the extent to which the parents of children in the three experimental schools were aware of teacher aides and of their activities. Teacher aides had been utilized in the experimental schools for nearly three academic years at the time of this survey. The purpose of the survey was to learn how well parents were acquainted with the role of teacher aides in the schools their children attended.

The Instrument

A semi-structured interview schedule was employed to elicit information from the respondents. To assist the interviewer in categorizing the data, as well as to maintain a uniform interview format, a simple instrument was developed. This instrument included multiple-choice as well as open-ended questions. The latter were included in an attempt to determine the extent to which the respondents were acquainted with particular items. A copy of the instrument is included at the end of this section.

An introductory statement to be used by the interviewer was also formulated. This was done to provide a common foundation for the responses elicited from the parents, as well as to assure the respondent that the anonymity of his comments would be respected. To further assure uniformity of response judgement, all of the interviews were conducted by the writer.

Administration of the Instrument

The schools involved in this study were the three experimental schools in the project. The principals of the schools permitted access to the schools' census cards in order to obtain the telephone numbers. Each building had its own set of cards, and the telephone numbers from every tenth card were utilized. Only the telephone numbers were taken from the census cards so that there would be no opportunity to identify the interviewees by name. In addition the telephone numbers were later arranged in numerical order to further insure the anonymity of the respondents. The only information known about the parents to be interviewed was the name of the school which their children attended.

Telephone calls were made between the hours of 10:00 a.m. to noon, 1:30 to 3:30 p.m. and 6:30 p.m. to 8:30 p.m. If there was no answer to the first telephone call, two additional attempts were made to contact the party. These telephone calls were made at different hours of the day so that there would be a better opportunity of calling when the head of the household might be at home. The calls were made between April 6 and May 15 of 1970.

Total Number Hypotheses

The purpose of this telephone survey was to determine to what extent parents were acquainted with teacher aides. The hypotheses to be tested are listed below:

1. Where the head of the household has a greater amount of formal education, there will be a better understanding of teacher aides and of their tasks.

2. Where the head of the household has a greater amount of formal education, there will be a feeling that teacher aides are important to a good educational program.

3. Where the head of the household has a job which requires a higher level of organizational and administrative ability, there will be a feeling that teacher aides are important to a good educational program.

4. Where the head of the household has a job which requires a higher level or organizational and administrative ability, there will be a greater awareness of teacher aides and of their tasks.

5. Where the head of the household has a job which requires a higher level of organizational and administrative ability, there will be an increased ability to identify tasks which someone other than the teacher can perform in the classroom.

6. Where the head of the household has a job which requires a higher level or organizational and administrative ability, there will be a greater acceptance of having teacher aides work with their own children.

7. Parents of elementary school pupils will be better acquainted with the work of teacher aides than parents of junior high school pupils.

8. Parents who know of teacher certification requirements will tend to know more about teacher aides and of the work they do than parents who are not aware of such requirements.

Presentation of the Data

Table I presents the responses and percentage figures for each of the questions asked.

TABLE I

FREQUENCY AND PERCENTAGE OF RESPONSES TO THE INTERVIEW QUESTIONS REPORTED IN TERMS OF THE TOTAL SAMPLE

Questions	Frequency of Responses	Percentage
1. Have you heard of teacher aides?		
Yes	152	81.28
No	35	18.72
2. Could you tell me what you think a teacher aide is?		
0 - No understanding at all	24	12.83
1 - Bare minimum	51	27.27
2 - Slight understanding	29	15.51
3 - Average	25	13.37
4 - Above average	37	19.79
5 - Extensive understanding	21	11.23
3. Do you feel that teacher aides are important to a good educational program at school?		
Yes	113	60.43
No	21	11.23
Other	53	28.43
4. Do you feel that aides are of more value to the pupil or to the teacher?		
Pupil	66	35.29
Teacher	52	27.81
Other	69	36.90
5. Are there things in the classroom which you feel could be done by someone other than the teacher?		
Yes	139	74.33
No	48	25.67

TABLE I - continued

Questions	Number of responses	Percentage
6. (If anser YES to question 5) would you name a few tasks which you feel a ateacher's aide could to in the classroom.		
0 - No understanding at all	48	25.67
1 - Bare minimum	36	19.25
2 - Slight understanding	18	9.63
3 - Average	25	13.37
4 - Above average	28	14.97
5 - Extensive understanding	32	17.11
7. Do you believe that it is all right to use aides to do certain work at school with your child?		
Yes	104	55.61
No	83	44.39
8. (If answer YES to question 7) would you tell me some things which you feel an aide could do to help your child in school.		
0 - No understanding at all	78	41.71
1 - Bare minimum	18	9.63
2 - Slight understanding	21	11.23
3 - Average	17	9.09
4 - Above average	21	11.23
5 - Extensive understanding	32	17.11
9. Do you happen to know if teachers need a license or certificate in order to teach in North Dakota?		
Yes they do	140	74.87
No they don't	8	4.28
Don't know	33	17.65
Other	6	3.20

The rating scale used for the open-ended questions provided six levels to indicate the level of understanding of the respondent. "0" indicates a complete lack of knowledge about the question while "5" indicates a very thorough understanding.

The majority of parents indicated that they had heard of teacher aides. It is interesting to note that 18.72 per cent of those interviewed indicated that they had not heard of teacher aides even though aides had been used in these Grand Forks schools for three years.

Less than one-half (44.39 per cent) of those questioned had an average or above-average knowledge of what a teacher aide was, which indicates that while parents had heard of teacher aides they were not conversant as to their roles in the schools.

There was no clear-cut indication as to whether teacher aides were of primary benefit to pupils or to teachers. In this question the respondents were quite evenly divided in their opinions about whether aides were of primary benefit to pupils, teachers, both, or to someone else.

A definite majority (74.33 per cent) of those contacted indicated that they felt there were classroom tasks which could be performed by someone other than the teacher.

While a definite majority of parents felt that someone other than the teacher could have tasks to perform within the classroom, less than one-half were able to provide an average or above-average description of such tasks.

It is interesting to note that while a definite majority of those contacted felt that there were classroom tasks which an aide could perform, over one-half (55.61 per cent) wanted aides to work with their own children. An even lower percentage could identify, with an average or above-average ability, the type of tasks which aides could or should do with their children. Only 37.43 per cent of those interviewed could provide at least an average description of the type of tasks which an aide could do to help their children in school.

Parents interviewed appeared to have some knowledge of the requirements to enter the teaching ranks. Seventy-four per cent stated that they knew teachers needed to be certificated in order to hold their positions in the school system.

Only 11.23 per cent of the parents indicated that they felt aides were not important to a good educational program. This would tend to indicate that parents have accepted aides as beneficial to their children's education.

A number of respondents indicated that in light of certain conditions they felt aides were beneficial. These included references to the large classes, crowded classrooms, and the particular curriculum being used. Such answers were recorded as "Other" because while they were giving approval of aides, it was under certain circumstances which, if not present, might have altered the response. At the same time, since some of these conditions did exist and the respondents did not express disapproval of aides, it is possible to state with some assurance that 88.86 per cent of those interviewed believed that aides were beneficial to the instructional program.

In Table II the responses on certain questions are arranged according to the respondents knowledge of teacher certification.

TABLE II

RESPONSES TO THE INTERVIEW QUESTIONS BASED UPON THE RESPONDENT'S KNOWLEDGE OF TEACHER CERTIFICATION STANDARDS

Question	Response	Yes (N=141) Percent	Other (N=46) Percent
2.*		11.35	17.39
	0	-	-
	1	29.79	19.56
	2	13.48	28.26
	3	11.35	19.56
	4	23.40	8.69
	5	10.64	6.52
4.	Pupil	41.84	15.21
	Teacher	28.37	26.08
	Other	29.79	58.69
5.	Yes	77.30	65.22
	No	22.70	34.78
6.	0	22.70	34.78
	1	17.02	26.08
	2	12.06	0.00
	3	12.77	15.21
	4	19.15	2.17
	5	16.31	21.73
7.	Yes	62.41	34.78
	No	37.59	65.22
8.	0	34.75	63.05
	1	12.06	2.17
	2	14.18	-
	3	7.80	13.05
	4	14.89	-
	5	16.31	21.74

*Text of each question can be found in Table I.

Respondents who knew that teachers needed certification were better able to describe the work of teacher aides. Forty-five per cent of these people could provide at least an average description of aides while only 11.35 per cent had no idea of what aides were. This compared to 35.17 per cent who did not know teachers needed certification and who were able to provide at least an average description of aides. Seventeen per cent of this latter group had no idea of what aides were.

Parents who knew the certification requirements for teachers were more apt to believe that aides were for the benefit of the pupils. Nearly forty-two per cent of that group indicated that the purpose of aides was to benefit the pupils while only 15.21 per cent of the other group felt that aides were to help the children.

Parents who knew the certification requirements were also more apt to indicate that they felt there were some classroom tasks which could be done by someone other than the teacher.

In Table III the data are sorted according to whether the respondents felt that aides were of most value to the pupil or to the teacher.

Three categories of responses are shown in this table: "Pupil," "Teacher," and "Other." The third category was for respondents who gave answers which did not clearly indicate that aides were primarily for the pupils or for the teachers. The responses included statements such as, "It would depend on the circumstances", "That will depend on what is going on in the classroom", "I suppose that it would help both", or "It helps the administration."

A large majority of parents, whether they indicated that aides were for the primary benefit of pupils or teachers, felt that there were things

TABLE III

RESPONSES TO SELECTED INTERVIEW QUESTIONS BASED UPON THE RESPONDENT'S OPINIONS IN TERMS OF WHOM THE AIDES BENEFIT

Question	Response	Pupil (N=66) Percent	Teacher (N=52) Percent	Other (N=69) Percent
5. *	Yes	87.88	96.15	44.93
	No	12.12	3.85	55.07
6.	0	12.12	3.85	55.07
	1	3.03	13.46	39.13
	2	12.12	15.38	2.90
	3	25.76	15.38	-
	4	22.73	25.00	-
	5	24.24	26.92	2.90
7.	Yes	89.39	67.31	14.49
	No	10.61	32.69	85.51
8.	0	10.61	25.00	84.06
	1	4.55	15.38	10.14
	2	19.70	11.54 (54)	2.90
	3	18.18	9.62	-
	4	22.73	11.54	-
	5	24.24	26.92	2.90

*Text of each question can be found in Table I.

within the classroom which could be done by someone other than the teacher. Virtually all of the respondents (96.15 per cent) who indicated that aides were for the benefit of teachers felt that there were activities which could be performed in the classroom by someone other than the teacher.

Among the respondents who indicated that aides were of primary benefit to something or someone other than the pupils or teachers, 55.07 per cent felt that there were classroom tasks which could not be given to someone other than the teacher.

Whether parents felt that aides were primarily for the pupils' or the teachers' benefit, they were in agreement in identifying the tasks which aides could perform. An average or better-than-average description of these tasks was given by 72.73 per cent of the former and by 67.30 per cent by the latter group.

It is interesting to note that among parents who felt that aides were of primary value to pupils approximately the same number felt that there were tasks which someone other than the teacher could do and that it would be all right to use such a person with their child. These figures were 87.88 per cent and 89.39 per cent respectively.

Parents who felt that aides were more for the teachers benefit overwhelmingly felt that there were tasks which aides could do (96.15 per cent) but only 67.31 per cent of this group approved using aides to work with their children.

As might be expected, respondents who felt that aides were of value to someone other than the pupil or teacher were definitely opposed (85.51 per cent) to using an aide to work with their children.

Parents who felt that aides were of more value to the pupils could better describe tasks which they felt aides could perform with or for their children. Over sixty-five per cent of this group could provide at least an average description of such tasks. This compares to 48.08 per cent for parents who felt that aides were more for the benefit of the teachers.

In Table IV the data are arranged according to the amount of formal education completed by the head of the household.

Of the 187 family units interviewed there were eight in which the head of the household had completed no more than a junior high school education; ninety-nine had completed high school and this includes a number who indicated junior college or similar work; and eighty respondents stated that the head of their household had at least one college degree.

Data on the family units where the head of the household had completed no more than the junior high school is included in Table IV only as a matter of interest. No reference will be made to those figures because they involve so few cases.

It is especially interesting to examine questions two, six, and eight. In these questions the respondents were asked, respectively, to describe the work of an aide, what classroom tasks could be performed by someone other than the teacher, and what tasks an aide might perform with their children. In each of these questions the responses from families where the head of the household had a college degree were superior to the responses given where only a high school diploma was received.

Respondents where the head of the household had a college degree were more apt to know that teachers needed certification, to permit aides

TABLE IV

RESPONSES TO THE INTERVIEW QUESTIONS BASED UPON THE AMOUNT OF FORMAL EDUCATION COMPLETED BY THE HEAD OF THE HOUSEHOLD

		Educational Level		
Question	Response	Less Than Sr.High (N=8) Percent	Sr.High (N=99) Percent	College (N=80) Percent
1.*	Yes	100	78.79	82.50
	No		21.21	17.50
2.	0		17.17	8.75
	1	100	27.27	20.00
	2		16.16	16.25
	3		13.13	15.00
	4		18.18	23.75
	5		8.08	16.26
3.	Yes	100	52.53	66.35
	No		13.13	10.00
	Other		34.34	23.75
4.	Pupil	50.	29.29	41.25
	Teacher		28.28	30.00
	Other	50.	42.42	28.75
5.	Yes	50	68.69	83.75
	No	50	31.31	16.25
6.	0	50.	31.31	16.25
	1	50.	18.18	17.50
	2		13.13	6.25
	3		14.14	13.75
	4		14.14	17.50
	5		9.09	28.75
7.	Yes		47.47	71.25
	No	100.	52.53	28.75
8.		100	47.47	28.75
	1		8.08	12.50
	2		18.18	3.75
	3		9.09	10.00
	4		8.08	16.25
	5		9.09	28.75

TABLE IV - continued

9.	Yes they do	50.	66.67	87.50
	No they don't		4.04	5.00
	Don't know	50.	23.23	7.50
	Other		6.06	-

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*Text of each question can be found in Table I.

to work with their children, to be aware that there were tasks in the classroom which someone other than the teacher could perform, and that aides are important to a good educational program.

The data were also arranged according to whether the children of the respondents were in an elementary school or a junior high school. This data are presented in Table V.

The parents of children in elementary schools appeared to have a better understanding of the work of aides than the parents of pupils in the junior high school. This is reflected in the responses to questions one, two, six and eight.

Both groups of parents indicated a similar response when asked if someone other than the teacher could perform some tasks in the classroom. About seventy-six per cent of the parents of elementary school children felt that there were such tasks, while 70.59 per cent of the parents of junior high school pupils replied in the same manner. However when it came to permitting an aide to work with their own child, a difference was noted. Sixty-three per cent of the parents of elementary school pupils believed that it was all right to use aides to do certain work with their children. Only 41.18 per cent of the parents of junior high school pupils indicated approval to the same question.

TABLE V

RESPONSES TO THE INTERVIEW QUESTIONS BY PARENTS DIVIDED BY THE EDUCATIONAL LEVEL OF THEIR CHILDREN

Question	Response	Educational Level Elementary (N=119) Percent	 Junior High School (N=68) Percent
1.*	Yes	90.76	64.71
	No	9.24	35.29
2.	0	8.40	20.59
	1	14.29	50.00
	2	17.65	11.76
	3	14.29	11.76
	4	27.73	5.88
	5	11.65	-
3.	Yes	61.34	58.82
	No	10.08	13.24
	Other	28.57	27.94
4.	Pupil	38.66	29.41
	Teacher	31.09	22.06
	Other	30.25	48.53
5.	Yes	76.47	70.59
	No	23.53	29.41
6.	0	23.53	29.41
	1	13.45	29.41
	2	5.04	16.18
	3	10.08	19.12
	4	20.17	5.88
	5	27.73	-
7.	Yes	73.87	41.18
	No	36.13	58.82
8.	0	36.13	51.47
	1	4.20	19.12
	2	3.36	23.53
	3	10.92	5.88
	4	17.65	-
	5	27.73	-

TABLE V - continued

9.	Yes they do	74.79	76.47
	No they don't	6.72	-
	Don't know	18.49	16.18
	Other	-	7.35

*Text of each question can be found in Table I.

An attempt was also made to determine if there were any differences in responses which could be related to the occupations of the heads of the households.

Eleven different occupational areas were provided for in the original form of the questionnaire. Two of these, "Retired" and "Unemployed," were dropped in the reporting of the data because none of those interviewed were involved. The remaining areas were as follows: Agriculture, Clerical, Manager, Professional, Sales, Semi-skilled, Skilled, Technical, and Unskilled.

To simplify the data and to provide more meaningful numbers with which to work, the remaining nine occupational areas were grouped into three categories. These were as follows:

1. Professional
2. Agriculture, Manager, Technical
3. Clerical, Sales, Semi-skilled, Skilled, Unskilled

These three categories were based on the degree of organizational and administrative skill needed in the occupation. It was assumed that a professional man would need to have the greatest degree or organizational and administrative skill, and that respondents from families where the head

TABLE VI

RESPONSES TO THE INTERVIEW QUESTIONS BY PARENTS DIVIDED IN TERMS OF THREE OCCUPATIONAL AREAS

		Occupational Areas		
Questions	Responses	Professional (N=43) Percent	Agriculture,Manager Technical (N=93) Percent	Clerical,Sales,Semi-Skilled, Skilled, Unskilled (N=51) Percent
1.*	Yes	90.70	77.42	80.39
	No	9.30	22.58	19.61
2.	0	4.65	12.90	19.61
	1	18.60	31.18	27.45
	2	25.58	9.68	17.65
	3	13.95	11.83	15.69
	4	18.60	25.81	9.80
	5	18.60	8.60	9.80
3.	Yes	65.12	59.14	58.82
	No	9.30	8.60	17.65
	Other	25.58	32.26	23.53
4.	Pupil	39.53	37.63	27.45
	Teacher	37.21	21.51	31.37
	Other	23.26	40.86	41.18
5.	Yes	90.70	76.34	56.86
	No	9.30	23.66	43.14
6.	0	9.30	23.66	43.14
	1	18.60	21.51	15.69
	2	11.63	6.45	13.73
	3	18.60	13.98	7.84
	4	20.93	16.13	7.84
	5	20.93	18.28	11.76
7.	Yes	69.77	58.06	39.22
	No	30.23	41.94	60.78
8.	0	30.23	37.63	58.82
	1	13.95	11.83	1.96
	2	6.98	10.75	15.69
	3	9.30	12.90	1.96
	4	18.60	8.60	9.80
	5	20.93	18.28	11.76

TABLE VI - continued

9.	Yes	74.42	84.95	56.86
	No	9.30	4.30	-
	Don't know	16.28	10.75	31.37
	Other	-	-	11.76
10.	Elem. & Junior High Schools	-	-	15.68
	Senior High Schools	16.28	55.91	78.43
	College	83.72	44.09	5.88
11.	Kelly Elem.	32.56	16.13	19.61
	Eielson Elem.	48.84	49.46	25.49
	South Junior High School	18.60	34.41	54.90

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*Text of each question can be found in Table I.

of the household held a clerical, sales, semi-skilled, skilled or unskilled job would at least be acquainted with job definitions and the assignment of various tasks among the available personnel. This information is presented in Table VI.

Responses to questions five, six, seven and eight indicated that respondents from families where the head of the household needed more administrative ability recognized a differentiation of tasks within the classroom. They also were better able to identify such tasks and were more willing to have their children be responsible to aides for certain classroom work.

Over ninety per cent of the respondents where the head of the household held a professional job indicated that someone other than the teacher could do some of the tasks in the classroom. The lowest percentage figure, 56.86 per cent, was found for the respondents in families representing the clerical, sales and other occupations in this category.

The same pattern reported in the preceding paragraph was followed in question seven regarding the right to use an aide to do certain work at school with the respondents' children.

The same pattern was again followed when the respondents were asked to identify some tasks which an aide could do (question six) and which an aide could do with that person's own children (question eight).

Conclusions

The vast majority of families have heard of teacher aides though less than one-half were able to describe what the aides actually do in the schools.

A majority of the parents felt that teacher aides were important to a good educational program.

Parents were nearly equally divided as to whether the aides were of most value to the pupils, to the teachers, or to someone or something else in the school system.

A substantial majority of the parents felt that there were activities in the classroom which could be performed by someone other than a teacher. The majority, however, could not provide a satisfactory description of such tasks.

A slight majority of the parents felt that it was acceptable to use aides for certain work with their children. Less than a majority, however, could satisfactorily state what type of work they believed an aide could do or might do with their children.

Parents who were aware that teachers must be certificated were more capable of describing the work of aides than parents who did not know this information.

Where the heads of the households held a college degree there was a higher level of knowledge about teacher certification, a better understanding of the work of aides, a belief that aides were important to a good educational program, and a greater willingness to permit aides to work with their children.

The parents of elementary school aged children had a better understanding of aides than parents of junior high school aged students. This was also true for describing the work of aides and for approving of aides working with their children. The more organizational and administrative abilities needed by the head of the household in his occupation, the more frequent were the responses which indicated a better description of tasks which aides could perform in general, and with their own children.

Teacher Aide Telephone Survey

1. Have you heard of teacher aides? Yes____ No____
2. Could you tell me what you think a teacher aide is? 0 1 2 3 4 5
3. Do you feel that teacher aides are important to a good educational program at school? Yes____ No____ Other____
4. Do you feel that aides are of more value to the pupil or to the teacher? Pupil____ Teacher____ Other____

5. Are there things in the classroom which you feel could be done by someone other than the teacher? Yes____ No____

6. IF YES, would you name a few tasks which you feel a teacher's aide could do in the classroom? 0 1 2 3 4 5

7. Do you believe that it is all right to use aides to do certain work at school with your child? Yes____ No____

8. IF YES, would you tell me some things which you feel an aide could do to help your child in school. 0 1 2 3 4 5

9. Do you happen to know if teachers need a license or a certificate in order to teach in North Dakota?

Yes they do____
No they don't____
Don't know____
Other____

10. I am going to read off a list of job groupings. Would you please tell me which one best describes the work done by the head of your household.

Agriculture
Clerical
Manager
Professional
Retired
Sales
Semi-skilled
Skilled
Technical
Unskilled
Unemployed

11. This question also concerns the head of your household. Would you please tell me what level of schooling that person completed?

Grade Junior High Senior High College

12. School the children attend

Eielson Kelly South Junior

SECTION F

ATTITUDES TOWARD TEACHER-AIDE DIRECTED TAPED INSTRUCTION IN THE EDUCABLE MENTALLY RETARDED CLASSROOM

Introduction

The purpose of the present research is to determine the attitudes of teachers and children in educable mentally retarded classes in the Grand Forks Public Schools toward taped instruction provided by a teacher aide sponsored by Title III of the Elementary and Secondary Education Act.

In the report of the 1968-1969 academic year, Dr. Steve Harlow asked the question, "Can educable mentally retarded junior high age youngsters who have difficulty mastering information, learn and retain factual information, through directed audio tapes?" His conclusion was that instructional tapes specifically designed for such classes could be effective as an instructional method for educable mentally retarded junior high students. His results included the notion that instructional aides could be of great help. Further, he indicated that significant differences were not found between the post test of each chapter involved and a second post test administered after a period of from two weeks to two months later with the exception of one chapter of six included in the study. This would seem to indicate that the learnings experienced by students involved in these classes included not only a significant gain in learnings from pre to post test, but additionally, no significant loss after a period of time.

Harlow gives as factors influencing the success of the taped instruction experiment the following five:

1. The students received individual attention from the teacher aide while listening and during the testing period.

2. The teacher aide was able to motivate the student when attention began to lag.
3. Distractions were reduced making the sessions more conducive to learning.
4. A new and novel approach was being utilized which caused many of the previously bored students to respond with attention.
5. Not only academic tapes, but tapes made solely for the enjoyment of the students were made.

It must be emphasized that in the Harlow study no attempt was made to establish validity and reliability for the items employed in the study. The reason for this must be, indeed, evident. The items were designed solely for instructional purposes with the evaluation of the project as a secondary concern. This is as it should be since the primary purpose of the funding received by the Grand Forks Public Schools was to improve the method of instruction in the specified class. While Harlow cautions the reader concerning the interpretation of his results, it is indeed apparent to any individual who has observed the program that it was an enthusiastic success.

In light of Harlow's findings indicating the academic value of the presence of a teacher aide performing functions primarily in the area of tape assisted instruction at the cognitive level, it was decided that the 1969-1970 evaluation would consist of the attitudinal development of the program. It was decided that no pre - post data would be collected and that the evaluation would consist entirely of direct questions asked of the teachers, students, and the aide involved in the project during the current year.

Methodology and Procedures

This segment of the study contains a description of the students involved, and a brief description of the procedures involved in collecting and analyzing the data. It must be emphasized that the data are largely subjective in nature.

No tests were utilized in the 1969-1970 evaluation of the teacher aide project. The only data collection methods employed, however subjective, were the opinions and feelings of the students, teachers and aides involved. Informal interviews were conducted with five students from Valley Junior High, nine students from the two classes at Central at 5 students from South Junior High. The interview schedule consisted in three simple questions specifically designed to elicit the highest level response deemed possible by the students involved. The items were:

1. Do you know who Mrs. _________ is?
2. Do you like the tapes she makes and plays?
3. What do you think of these tapes and Mrs. _______?

The three teachers involved were interviewed very subjectively concerning their feelings about the value of having a traveling aide and her impact on the children.

They were further queried concerning the possibility of the improvement of the program. The aide herself was interviewed with respect to her feelings toward the movement of the children she had been responsible for during the year.

Student Sample

The students involved in the present evaluation were taken from the

Educable Mentally Retarded Special Education classes conducted in three Grand Forks Public Schools: Valley Junior High, South Junior High and Central High Schools. Specifically, the sample consisted of 12 students in the class at South Junior High, 23 students in the two classes at Central High School and 14 students in the class at Valley Junior High School.

FINDINGS

The findings of this investigation are presented in the following order:

1. Results of interview with children.
2. Results of interview with the teachers involved in the classes.
3. Results of interview with the teacher aide.

Results of Interview with Children

The children interviewed responded yes to the question, "Do you know who Mrs.__________ is?" one hundred per cent of the time. Seventy-nine per cent of these same children indicated a favorable feeling about the tapes. They liked them and felt that the tapes helped them in learning. The negative responses listed consisted primarily of statements indicating that the tapes were hard to listen to and that after repeated and prolonged exposure to them they became boring. An additional question asked to the children - "What does Mrs.________ do?" - elicited responses ranging from "She does anything" to "Plays tapes about North Dakota." Sixty-nine per cent of the children interviewed defined the role of the aide as being related to tapes. Thus, role definition was quite clear.

The children saw the aides' primary function as making and playing tapes.

While not a portion of the interview, an interesting note occurred in the process of interviewing. The children expressed generally positive feelings toward the aide. This feeling extended to the point of their being greatly concerned about what the results of the survey would be used for. Mrs.__________ was warned by a large number of students that someone was around asking questions about her. It seems to this investigator that this may have been the most significant finding of this survey.

Results of Interview with Teachers

The three teachers involved in the four classes were interviewed with respect to their use of aides and tapes. Unanimously, they expressed positive feelings toward the current aide and her work with the students in tapes. A further unanimous response was that they needed her for more hours per week. The schedule for the 1969-1970 academic year for the aide was that she spent one day per week in each of the four classes and was given one day for taping and preparing for the following week. The three teachers all felt that she could have been utilized more efficiently if two or three days per week could have been devoted to each class. The teachers also indicated that when the aide was in the room, they were freed from the more mundane classroom activities and could devote more time to individualized instruction for the students who were not at that time occupied with the aide. Overall, then, the response of teachers was overwhelmingly in favor of the presence of the aide in special education classrooms.

Results of Interview with the Teacher Aide

In a completely open-ended discussion with the aide involved, extremely positive feelings were brought out. The aide enjoyed her contact with the children immensely. She had very positive feelings about the tapes and found a great deal of satisfaction in knowing that the children she had been involved with had progressed as well as they had in the cognitive area. She indicated that she had great feelings of personal worth as a result of her working with and assisting low ability children and hoped that she would be employed in the same capacity next year. However, she agreed with the teachers that it would have been better for her to have spent a greater portion of time with each class and expressed the hope that more aides would be hired so that this could take place.

Summary and Conclusions

The purpose of this study was to determine the attitudes and feelings of students, teachers, and the teacher aide involved in the Title III Teacher Aide project in four classrooms for the Educable Mentally retarded in the Grand Forks Public School.

Generally positive responses were elicited from the teachers, students and the aide involved. The children knew who she was by name. They were generally favorable to the program of taped instruction and held the aide in high regard as a person. The teachers of the four classes held the aide in high personal regard, also, and found her to be invaluable in allowing them the time to work with students who needed special help. They all expressed the desire for expansion of the programs. The aide saw herself as being of value to the teachers and also expressed the need for expanding the program.

In light of the above information, it can be easily seen that the presence of the aide was viewed in a very positive light. The recommendation was unanimously expressed by the teachers and the aide was that a larger version of basically the same program should be instituted in the Grand Forks Public Schools.

SECTION G

A PRELIMINARY ATTEMPT TO PREDICT AIDE SUCCESS FROM SELECTED PRE-EMPLOYMENT VARIABLES

The possibility of predicting probable success of teacher aides from multiple pre-employment measures is, of course, intriguing. If administrators in a school district had such a tool, they could cut aide turnover, with its related increased costs, significantly. This part of the study is an attempt to accomplish that feat by using two tests plus certain personal data, all of which could be collected from prospective employees.

Efforts to predict "success" in various lines of employment have met with varied success. A number of efforts have been attempted with teachers, but they have had little or no positive results. Undoubtedly this is a reflection of the complex nature of the position as well as the difficulty in obtaining judgements of what constitutes success in teaching. Since the position and responsibility of the aide may be somewhat less complex than that of the teacher, it may be more feasible to attempt measurement with this group.

The fact that each aide had approximately the same pre-service training, controls for that important variable which undoubtedly has contributed to failure in other studies. The fact that each aide worked with a number of teachers gives the potential of multiple ratings for judgement purposes. Other variables such as different working conditions, differences in length of service and others were at least partially controlled. The N was fairly small but well within testing limits for a preliminary study.

Instrument and Data Collection

The tests employed were the 16 Personality Factor Inventory and the Mastery Concept Tests. Three pieces of personal data, age, educational status and prior experience, were also used. Each aide took both tests on the same day during the pre-service workshop.

A Teacher Aide Evaluation form was constructed and used by teachers to rate the aides (see page 5). This evaluation form rated aides on several aspects of their job. They were rated by the teachers for whom they worked after they had been employed four months. These ratings were summed and the total was used as the criteria variable. Because of the problems of testing and evaluation, only the aides from the Grand Forks workshop were utilized for this attempt.

Statistical Procedure

Stepwise Backward Multiple Regression was used to analyze the data. Data on 20 teacher aides were used because complete data sets existed only for these 20. In the multiple regression, the total score for teacher rating was used as the criterion and, where more than one teacher rating was available for a particular teacher aide, the median total score was chosen and used as the criterion for that individual. Two preliminary analyses were run to eliminate some variables from consideration for too many variables were available for the number of subjects involved. In the final analysis, variables number 2, 5, 8, and 12 (scales 2, 5, 8, and 12 on the 16 P.F.) were not considered because they contributed the least to preliminary prediction of the criterion.

Presentation of the Data

For the final prediction, 15 independent variables were used: 12 remaining P.F. scales, Concept Mastery Test, age and education. Stepwise Backward Multiple Regression eliminates variables from consideration when they contribute the least toward prediction of the criterion. The regression equation is valid when the variables under consideration only contribute significantly to the prediction of the criterion. In this analysis, 11 variables were eliminated. Four variables contributed significantly to a prediction of the criterion: Scales 1, 4, 14, and 16 from the 16 P.F. All other variables were not significant predictors.

The prediction equation, then, is as follows:

$$Y' \text{ (criterion score)} = .380\ X_1 + .328\ X_2 - .437\ X_3 + .458\ X_4 + 9.324$$

where X_1 = Scale 1, X_2 = Scale 4, X_3 = Scale 14, and X_4 = Scale 16. The Multiple Correlation between these four variables and the criterion is .719 which accounts for over 50 per cent of the variance in the criterion. The standard error of prediction is 18.04.

The correlation is between a low score on the factors A, E, Q_2 and Q_4 on the 16 P. F. Test Profile (see end of this section) and a high rating on the Teacher Aide Evaluation (see page 5). This can be interpreted to mean that the aides who indicate a low score on the items on the 16 P.F. which translate into the factors cited above tend to be rated higher as effective aides by the teachers with whom they work. The description of the four significant factors are (A) reserved, detached, cool, (E) humble, mild, accomodating, comforting, (Q_2) group dependent, a "joiner" and a sound follower, and (Q_4) relaxed, tranquil, torpid, and unfrustrated. None of the other factors nor the other data gathered (I.Q., education, experience) correlated highly with aide effectiveness.

Conclusion

The pattern of personal factors which correlated with the teachers' are quite clear. The non-aggressive, follower, tranquil person seems to be more desirable as a teacher aide, at least by the teachers who rated these aides.

It must be remembered that even though this prediction equation is statistically significant, other factors influence its practical significance. This equation is based on an N of only 20. A larger sample would be more desirable. Also, prediction equations are magnified because of common error variance when small samples are used. Despite these cautions, the preceding equation can provide useful information provided it be used with discrimination.

On the strength of the evidence presented, it would seem feasible to request each candidate for workshop training to respond to the 16 P.F. before final selections are made. Each aide would subsequently be rated using the same instrument (Teacher Aide Rating) and a large sample would serve to either verify results or disprove them. If the results tend to reinforce the present study, the 16 P.F. should become a part of the screening technique for hiring aides in North Dakota.

GRAND FORKS PUBLIC SCHOOL DISTRICT #1

Teacher Aide Evaluation

Please complete the following form. Use one form for each aide who had worked with you. Please return to your principal at your earliest convenience.

Name of Aide____

School____

Date of Evaluation____________________________________

Use the following rating scale:

1. Outstanding
2. Excellent
3. Superior
0. No opportunity to observe
4. Good
5. Acceptable
6. Unsatisfactory

Please circle the appropriate response.

1. Speech 0 1 2 3 4 5 6
2. Judgement 0 1 2 3 4 5 6
3. Initiative 0 1 2 3 4 5 6
4. Adaptability 0 1 2 3 4 5 6
5. Enthusiasm 0 1 2 3 4 5 6
6. Cooperation 0 1 2 3 4 5 6
7. Dependability 0 1 2 3 4 5 6
8. Quality of work 0 1 2 3 4 5 6
9. Quantity of work 0 1 2 3 4 5 6
10. General Appearance 0 1 2 3 4 5 6
11. Ability to work with others 0 1 2 3 4 5 6
12. Punctuality and attendance 0 1 2 3 4 5 6
13. General personality 0 1 2 3 4 5 6

Teacher Aide Evaluation (Continued)

14. Attitude toward children 0 1 2 3 4 5 6

15. Emotional stability 0 1 2 3 4 5 6

16. Ability to communicate 0 1 2 3 4 5 6

17. Resourcefulness 0 1 2 3 4 5 6

18. Attitude toward job 0 1 2 3 4 5 6

19. Clerical skill 0 1 2 3 4 5 6

20. Overall evaluation 0 1 2 3 4 5 6

Written comment:

1. List two areas in which this aide was especially strong.

2. In what one or two ways has the aide helped you the most.

3. Additional comments or observations.

16 P.F. TEST PROFILE

FACTOR	Raw Score			Standard Score	LOW SCORE DESCRIPTION	STANDARD TEN SCORE (STEN)				→ Average ←							HIGH SCORE DESCRIPTION
	Form A	Form B	Total			1	2	3	4	5		6	7	8	9	10	
A					**RESERVED,** DETACHED, CRITICAL, COOL (Sizothymia)	•	•	•	•	•	A	•	•	•	•	•	**OUTGOING,** WARMHEARTED, EASY-GOING, PARTICIPATING (Affectothymia, formerly cyclothymia)
B					**LESS INTELLIGENT,** CONCRETE-THINKING (Lower scholastic mental capacity)	•	•	•	•	•	B	•	•	•	•	•	**MORE INTELLIGENT,** ABSTRACT THINKING, BRIGHT (Higher scholastic mental capacity)
C					**AFFECTED BY FEELINGS,** EMOTIONALLY LESS STABLE, EASILY UPSET (Lower ego strength)	•	•	•	•	•	C	•	•	•	•	•	**EMOTIONALLY STABLE,** FACES REALITY, CALM, MATURE (Higher ego strength)
E					**HUMBLE,** MILD, ACCOMMODATING, CONFORMING (Submissiveness)	•	•	•	•	•	E	•	•	•	•	•	**ASSERTIVE,** INDEPENDENT, AGGRESSIVE, STUBBORN (Dominance)
F					**SOBER,** PRUDENT, SERIOUS, TACITURN (Desurgency)	•	•	•	•	•	F	•	•	•	•	•	**HAPPY-GO-LUCKY,** IMPULSIVELY LIVELY, GAY, ENTHUSIASTIC (Surgency)
G					**EXPEDIENT,** EVADES RULES, FEELS FEW OBLIGATIONS (Weaker superego strength)	•	•	•	•	•	G	•	•	•	•	•	**CONSCIENTIOUS,** PERSEVERING, STAID, RULE-BOUND (Stronger superego strength)
H					**SHY,** RESTRAINED, DIFFIDENT, TIMID (Threctia)	•	•	•	•	•	H	•	•	•	•	•	**VENTURESOME,** SOCIALLY BOLD, UNINHIBITED, SPONTANEOUS (Parmia)
I					**TOUGH-MINDED,** SELF-RELIANT, REALISTIC, NO-NONSENSE (Harria)	•	•	•	•	•	I	•	•	•	•	•	**TENDER-MINDED,** DEPENDENT, OVER-PROTECTED, SENSITIVE (Premsia)
L					**TRUSTING,** ADAPTABLE, FREE OF JEALOUSY, EASY TO GET ON WITH (Alaxia)	•	•	•	•	•	L	•	•	•	•	•	**SUSPICIOUS,** SELF-OPINIONATED, HARD TO FOOL (Protension)
M					**PRACTICAL,** CAREFUL, CONVENTIONAL, REGULATED BY EXTERNAL REALITIES, PROPER (Praxernia)	•	•	•	•	•	M	•	•	•	•	•	**IMAGINATIVE,** WRAPPED UP IN INNER URGENCIES, CARELESS OF PRACTICAL MATTERS, BOHEMIAN (Autia)
N					**FORTHRIGHT,** NATURAL, ARTLESS, SENTIMENTAL (Artlessness)	•	•	•	•	•	N	•	•	•	•	•	**SHREWD,** CALCULATING, WORLDLY, PENETRATING (Shrewdness)
O					**PLACID,** SELF-ASSURED, CONFIDENT, SERENE (Untroubled adequacy)	•	•	•	•	•	O	•	•	•	•	•	**APPREHENSIVE,** WORRYING, DEPRESSIVE, TROUBLED (Guilt proneness)
Q_1					**CONSERVATIVE,** RESPECTING ESTABLISHED IDEAS, TOLERANT OF TRADITIONAL DIFFICULTIES (Conservatism)	•	•	•	•	•	Q_1	•	•	•	•	•	**EXPERIMENTING,** CRITICAL, LIBERAL, ANALYTICAL, FREE-THINKING (Radicalism)
Q_2					**GROUP-DEPENDENT,** A "JOINER" AND SOUND FOLLOWER (Group adherence)	•	•	•	•	•	Q_2	•	•	•	•	•	**SELF-SUFFICIENT,** PREFERS OWN DECISIONS, RESOURCEFUL (Self-sufficiency)
Q_3					**UNDISCIPLINED SELF-CONFLICT,** FOLLOWS OWN URGES, CARELESS OF PROTOCOL (Low integration)	•	•	•	•	•	Q_3	•	•	•	•	•	**CONTROLLED,** SOCIALLY-PRECISE, FOLLOWING SELF-IMAGE (High self-concept control)
Q_4					**RELAXED,** TRANQUIL, TORPID, UNFRUSTRATED (Low ergic tension)	•	•	•	•	•	Q_4	•	•	•	•	•	**TENSE,** FRUSTRATED, DRIVEN, OVERWROUGHT (High ergic tension)

Comments:

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